LICIT AND ILLICIT DRUG USE IN TWO CULTURES:

A COMPARATIVE STUDY OF ADOLESCENTS IN SCOTLAND AND NORTHERN IRELAND

WENDY LORETTO

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The research described herein is entirely my own,
and the thesis has been composed by myself.

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ABSTRACT

Available evidence suggests that drinking habits, as well as the patterns of use of other drugs, in Northern Ireland are markedly different from those in Britain. In order to investigate these differences amongst young people, a cross-national study was conducted of self-reported alcohol and tobacco and illicit drug use amongst 1172 secondary school pupils in Northern Ireland and Scotland. The study group was further divided by gender, socio-economic status and religious affiliation. Two age groups were included: 11-12 years old and 14-16 years old. It was intended that these divisions would enable not only the comparison of national attitudes, behaviour and beliefs relating to use and misuse of alcohol, tobacco and illicit drugs, but also an examination of how such variables may be mediated by age during the early teenage years.

The results of this study supported earlier findings that Northern Irish teenagers were less likely than their Scottish counterparts to have consumed an alcoholic drink. However, those that did drink were more likely than their British peers to be heavy drinkers and to consume alcohol in contexts associated with possible dangers, i.e. drinking in peer groups in uncontrolled settings. Effects on drinking behaviour associated with religious affiliation and socio-economic status were more marked in Northern Ireland. Accordingly, it was shown, that in Northern Ireland only, those attending Roman Catholic schools were less likely to consume alcohol. Again, in Northern Ireland only, those from less affluent backgrounds were more likely than their

wealthier counterparts to drink and also more likely to be heavier drinkers. Additionally, in line with other studies of teenage alcohol use, these data showed that use of alcohol increased with age and that males were more likely than females to drink, and to drink heavily. These effects were present in both countries.

The use of tobacco and illicit drugs also increased with age. Although the males in this study were more likely to have used illicit drugs, in relation to smoking no gender effect was observed amongst the Scottish study group. Nevertheless, in Northern Ireland, females were more likely than males to be smokers. Those respondents from less affluent backgrounds were more likely to smoke or to have used other drugs. Both these effects were much more marked amongst the Northern Irish study group. In contrast to their drinking behaviour, Roman Catholic pupils were more likely to smoke and to smoke heavily. Examination of other social and cultural variables indicated that, in Northern Ireland only, religiosity had a 'protective' effect in relation to consumption of alcohol and drugs. Parental attitudes and family-related factors were also shown to significantly affect the propensity to consume alcohol. Once again these effects were more marked amongst the Northern Irish respondents.

An important feature of this analysis was to assess from comparisons within the study, the ways in which cultural, national, family, social and religious backgrounds *together* influence behaviours, attitudes and beliefs related to alcohol, tobacco and illicit drugs in Northern Ireland and Scotland. It is argued that Northern Ireland is in many ways a

separate cultural entity with its own social and national identity. The concluding chapter focuses on the education and policy implications of this study, and emphasises the need for regional variations in drug use cultures to be taken into account when considering appropriate policies to prevent or to curb related problems.

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CHAPTER 1

INTRODUCTION

'This book is about drinking and young people. It is a topic that creates a great deal of reaction. In the press, on radio and television, the fact that young people drink is constantly referred to as a problem. The implication would seem to be that young people's drinking is linked very closely to deviant patterns of behaviour such as drug abuse, delinquency, illicit sexual relationships, violence, and so on. Very often it is felt that 'something must be done about the situation'. These reactions reflect to a great extent definite and strongly held emotional attitudes towards drinking and the young. Yet despite this concern very little is known about the drinking behaviour of the young and the influences that help in the development of this behaviour' Joyce O'Connor (1978: 1) *The Young Drinkers*

1.1 Introduction

Alcohol use and misuse by adolescents has been a source of scientific, public and political concern in the United Kingdom for many years now. In fact, it may be argued that nothing much has changed from the circumstances portrayed nearly twenty years ago by O'Connor. This concern has focused both on alcohol use as a problem *for* young people, and also as a problem *of* young people (May 1992: 109). Thus there is the commonly held belief that, compared to adults, young people are not only particularly likely to use alcohol and other psychoactive substances, but that they are also particularly vulnerable to their potential ill effects.

Available evidence (mainly from self-reported data) indicates that the majority of teenagers in the United Kingdom consume alcohol. Much of this consumption is at moderate levels, with few resulting problems. Nevertheless, the evidence also suggests

that a substantial minority of teenagers and other young people drink heavily and experience adverse consequences thereby. Most of this harm is related to the associated effects of intoxication, namely hangovers, accidents and socially undesirable consequences, and to legal problems. Moreover, many surveys have indicated that young people who drink heavily may be more likely than others to smoke tobacco, to use illicit drugs and to engage in a variety of potentially other risky behaviours.

> 'These immediate problems and the need to prevent future harm from the inappropriate use of alcohol make it important to monitor the use of alcohol by young people and to implement appropriate educational and public policy strategies.' (Anderson 1995: 5)

Successive studies have emphasised that aetiology of alcohol and other drug use should be taken into account when considering realistic responses to this situation (e.g. Plant 1981; Peck 1982; Plant and Plant 1992). However, it is also widely acknowledged that the factors influencing such use are complex. As a result, the exact aetiology of problematic pattern of use remains uncertain and this poses a practical barrier to the success of such responses.

> 'The use of alcohol, tobacco and illicit drugs is motivated by many different influences These include a wish to experiment with and to enjoy the often pleasant effects of specific drugs and peer pressure to imbibe them. Social, cultural, and environmental factors, together with the individual traits (personality, intelligence, sex, age) of the potential user or users combine with biological, political, economic and historical factors. It follows that so many influences impinge upon drug use and thereby misuse that no single or simple remedy has yet emerged, or could emerge, as a solution to drug problems.' (Plant, Peck and Samuel 1985:3)

To explore these issues further, this introductory chapter will commence with a brief overview of some of the main factors which have been shown to influence the patterns of use of alcohol and other drugs in young people[1], before introducing the current study and outlining the structure of the thesis. There are two points worth stating at the outset. The first is that the breadth of this field of inquiry has limited the amount of detail that could be devoted to any one subject area. Thus, where applicable, the interested reader will be directed towards additional pertinent references. Secondly, although the study was originally intended as being an alcohol study, for empirical and theoretical reasons tobacco and other drug use have also been included. As stated above, other studies have shown links between use of various substances. Many of these connections are rooted in the phenomenon of 'problem behaviour theory' devised by Jessor and Jessor (1977).

> 'The concept of problem behavior....refers to behavior that is socially defined as a problem, a source of concern, or as undesirable by the norms of conventional society and the institutions of adult authority, and its occurrence usually elicits some kind of social control response.' (Jessor and Jessor 1977: 33)

They discovered close relationships between the three areas (social protest behaviour, drug use and sexual behaviour) of problem behaviours studied. Furthermore they also demonstrated that degree of alcohol use was also closely linked to propensity to engage in these and other problem behaviours. Accordingly, it was decided to broaden the scope of the investigation to include the use of tobacco and illicit drugs and to examine how these may be related to drinking patterns.

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[1] Throughout this thesis, the terms 'young people' and 'adolescents' will primarily refer to those in secondary education, i.e. aged between 11 and 17 or 18 years old.

1.2 AETIOLOGY OF DRUG USE AND MISUSE

Fazey (1977) has provided probably the most comprehensive review in this area. Many theoretical perspectives have been offered, incorporating a range of factors specific to the individual and relating to the surrounding social and economic environments (e.g. 'Problem Behaviour Theory' - Jessor and Jessor 1977; 'The Epidemiological Triangle' - De Haes 1987; 'Health Action Model' - Tones 1987). The research has identified a confusing, and often contradictory, array of factors which influences the use and misuse of psychoactive substances, both in adults and in young people. It is not intended to review all such factors here, but rather to concentrate on the ones that are relevant to the focus of this investigation, that is demographic, social and cultural factors. As the main aim of the present study is to examine how alcohol and other drug use may vary between young people in Northern Ireland and Great Britain, cultural factors will represent the principal focus of the investigation. However, it is recognised that such effects may well be mediated by or even themselves influence a range of other social and demographic factors. Accordingly each of the next three sections will consider the major dimensions to be addressed in this study, in addition to relevant mediating variables.

Moreover, although this overview has been split into discrete sections for ease of explanation, it should be noted that many of the categories and influences do overlap, both with each other and with respect to their influence on alcohol, tobacco and illicit drug use.

1.2.1 Factors affecting alcohol use in young people

In 1978, O'Connor produced a now classic study which compared the social and cultural influences affecting the drinking habits of young people in the Republic of Ireland and in England. This study aimed to illustrate the complicated interplay of cultural, ethnic, parental, social, personal and peer group influences, all of which contribute to the development of a young person's drinking behaviour.

(i) Ethnic and cultural influences

According to O'Connor: 'drinking can be seen as a culturally defined pattern of behaviour, a social act, something we all learn in the context of our society or culture' (1978: 5). Her definition of culture is a broad based one: 'Culture refers to a man's [sic] entire social heritage, all the beliefs, skills, practices and attitudes he acquires as a member of the society in which he lives' (1978: 147). MacAndrew and Edgerton (1970) have noted that studies carried out in the context of varied cultures have produced evidence of different patterns of drinking, as well as showing that different manifestations of normal and abnormal drinking occur. The findings from O'Connor's study suggested that there were differences between the drinking patterns and attitudes towards alcohol displayed by the Irish and English young people (aged 18-21) interviewed. These differences centred around:

- Extent and prevalence of drinking
- Customs and patterns of drinking
- Social meaning and function of alcohol
- Social rules of drinking

- Exposure to alcohol-related problems
- Experience of alcohol-related problems

Other studies conducted in the United Kingdom, mainly in the more remote parts of Scotland, have focused on discrete locales and explored further the idea of 'local drinking culture' (e.g. Dean 1990; Anderson and Plant 1996).

(ii) Parental influences

Parental drinking and attitudes towards alcohol

The family is often acknowledged to be the social institution that has the most significant influence on the development of the individual in many respects (e.g. Hendry et al 1993; Ochiltree 1990). This appears to be true of drinking, especially among children and younger adolescents (Grube and Morgan 1986; Green at al 1991; Fossey 1994; Coggans and McKellar 1995; Anderson 1995), where children have been seen to adopt alcohol-related behaviour and attitudes which reflect those held by parents. It has therefore been suggested by many researchers (Davies and Stacey, 1972; Aitken 1978; O'Connor 1978; Fossey 1994) that a home environment where children learn the controlled use of alcohol will provide a model for 'responsible' drinking. However, as several commentators (e.g. Plant and Plant 1992; Coggans and McKellar 1995) have noted, this assumption is only valid for those children whose parents' alcohol-related behaviour is 'moderate' and whose alcohol-related attitudes are consistent with the messages they

wish their offspring to follow. Thus it has been shown that children of heavy[1] drinkers and abstainers are more likely to drink heavily or with problems (Anderson 1995). It might at first be thought that children of abstainers would themselves be more likely to abstain from alcohol. However several studies (Aitken and Leathar 1981 and McAteer 1991) have shown that non-drinking adults may be less likely to allow children to consume alcohol in the home. The relevance of this point is that in studies of youthful alcohol use, drinking away from the home has consistently been associated with heavier drinking, irrespective of age.

Family structure and relationships

There has been some suggestion that young people who do not live with both parents may be more at risk of developing harmful patterns of alcohol consumption. In their study of alcohol, drugs and young people, Plant, Peck and Samuel (1985) found that males who had been raised by their fathers only were the heaviest drinkers. Moreover, it was also shown that the mean level of alcohol-related consequences was higher for both males and females who had been raised by their father only. Foxcroft and Lowe (1991) conducted a meta-analysis of family-behaviour variables and young people's drinking. They found that support, control and family cohesion were important in the development of 'safe' drinking practices, and it is thought that these factors *may* be depleted in a family headed by one parent only. Furthermore, good communication with and support

[1] Studies have typically differed in their definitions of 'heavy' drinking. However, many use the guidelines devised by the Royal Colleges of Psychiatrists (1986), General Practitioners (1986) and Physicians (1987) as a reference point. These guidelines are elaborated in Chapter 2.

from parents appear to have a protective effect against alcohol (and other drug) misuse (Noller and Callan 1991; Currie, Todd and Wijckmans 1993).

(iii) Peer group factors

Although studies have emphasised that it is normal adolescent behaviour to move away from drinking with parents and instead to spend time with peers as they grow older, there still exists a widespread concern that young people are under some great 'peer pressure' to consume more alcohol when they are with their friends. Many studies have noticed a strong association between friends' drinking or use of other drugs and respondents' reported consumption (e.g. Grube and Morgan 1986, White, Johnson and Horowitz 1986; Plant et al 1990; Bahr, Hawks and Wang 1993).

Certainly being accepted by one's peers is a social need that is strong in most people. As Hendry et al have commented: 'Being liked, accepted and defining one's role within a social group are important features of life at any age, but can be of particular importance in adolescence.' (1993: 124). In their investigation into leisure habits of Scottish teenagers, they found that people who did not drink were perceived as being unpopular with peers. Brown (1982) found that 'peer pressure' to drink alcohol shifted from relative disapproval of drinking in early adolescence towards a raised pressure to drink in mid-adolescence, whereas pressure to use drugs or engage in sexual intercourse were strongest in later adolescence. Findings from Hendry et al's project supported this - pressure to drink and smoke was thought to be greatest at age 15-16, but at the same

time many adolescents did not perceive such behaviours as particularly relevant to acceptance by the peer group.

However this idea of pressure to conform has been widely criticised (May 1993a; Anderson 1995; Coggans and McKellar 1995). The thrust of this argument is that peer pressure explanations are misplaced in that they are often interpreted that the young person is passive in the face of pressure from others. In reality, it would seem that most young people choose their friends on the basis of similar attitudes, rather than these friends pressuring individuals into behaviour they do not wish. Moreover other authors, (e.g. De Vries and Kok 1986) argue that in comparison with persuasion, pressure and encouragement, less overt factors such as modelling may have a greater impact. Coggans and McKellar (1995) therefore contend that peer preference would be a more appropriate term - favouring or choosing some friends over others. It is thought that this better conveys the dynamic and reciprocal relationship between friends and peers.

Hendry et al (1993) also prefer to take a positive view of peers, emphasising their importance in acting as a source of behavioural standards in some contexts, particularly where parental influence is not strong. They too stress the opportunities that are offered for role-taking and role-modelling. In connection with this, Currie, Todd and Wijckmans (1993): found that those who smoke and drank regularly (at least weekly) were significantly more likely to be socially well integrated than those who did not smoke or drink. They maintained that smoking and drinking helped certain young people to socialise. However, it may also be the case that for most adolescents, drinking and

smoking tend to occur in social contexts, i.e. it is exactly because they are sociable that they are more likely to drink and smoke.

(iv) Social and personal factors

Religious behaviour and beliefs

Religion is a factor which may have both personal salience and social aspects to it. Jessor and Jessor (1977) chose to focus on religiosity as a personal control against involvement in problem behaviours, but also state that this follows from the moral beliefs and conventional perspectives that are inherent in the social aspects of religious involvement. In their study of American youth, they found that religiosity did function as a personal control against deviant behaviour and that church attendance was inversely related to drinking. However, they also noted that since both religiosity and church attendance decline with age, the role of religious socialisation may be more critical in early adolescence.

In a cross-cultural context, studies, notably Pittman and Snyder (1962), have clearly demonstrated the role of religion in discouraging alcohol use, not only in Islamic societies, but in the 'Bible Belt' of the USA and in Ireland. In relation to the latter country, O'Connor noted that besides family, the other social institution most frequently seen as playing an important part in the development of drinking behaviour is religion. She found that the latter had a pronounced effect on the drinking behaviour of the 18-21

year olds surveyed, with those displaying a high level of religiosity tending to be categorised in the lighter drinking categories, particularly in Ireland.

Lifestyle and leisure activities

Several studies have shown that drinking is associated with certain types of leisure activity more than others. For example, from their survey of Glaswegian teenagers, Davies and Stacey (1972) suggested that young people are less likely to smoke and drink if they play a sport and attend youth clubs than if they regularly go to parties and dances. This finding was also shown by McAteer (1991) in her survey of young people in West Belfast in Northern Ireland. However as age was not taken into account in the latter study, this finding may just reflect the fact that as teenagers grow older they move away from spending time at home and in organised leisure activities, and spend more time in drinking-related contexts. Nevertheless, Hendry et al (1993) and Currie and Todd (1992) have both shown among Scottish teenagers that from mid adolescence young people can be characterised as leading relatively healthy or unhealthy lifestyles and that the healthier lifestyles are more involved in sport and physical activity.

Socio-economic factors

The most commonly studied factors in this category include family socio-economic status, and personal income.

Jessor, Donovan and colleagues have noted in successive studies that those young people who are born into socially disadvantaged circumstances are likely to be at risk in many ways, one of which is a propensity to heavier drinking (Jessor et al 1980; 1990; 1991). However, another study, again of drinking in the US, found that teenagers from manual backgrounds were more likely to abstain from alcohol (Zucker and Harford 1983). Thus Currie and Todd (1992; 1993) in their survey of Scottish school pupils, felt it beneficial to incorporate a range of indicators to explain socio-economic circumstances. In addition to requesting fathers' occupational status and obtaining information on indicators of family affluence/deprivation, they also measured respondents' own disposable income. They found that, only amongst the 15 year olds, the highest drinking rates were found among children from professional and more affluent backgrounds. It was also shown that drinkers were more likely to have higher disposable incomes. National surveys of young people have also asked questions about personal disposable income and have found that in Scotland, England and Wales and Northern Ireland, those with more money are more likely to drink, to drink heavily and frequently and to get drunk and experience adverse consequences (Marsh, Dobbs and White 1986; Craig 1989; Craig, Francis and McWhirter 1991). However, none of these studies has asked the young people how much of their money was spent buying alcohol; rather there was an assumption that the more money a person had, the more alcohol they bought and so consumed.

Age

The consensus reached from surveys of youthful drinking is that the number of young people who consume alcohol and the amount consumed typically accelerate in adolescence, particularly from the age of 13 onwards (e.g. Marsh, Dobbs and White 1986). In fact, it has been noted that the period between being a non-drinker and consuming alcohol on a regular basis is a fairly short one (Lister Sharp 1994). This transition is accompanied by a definite change in attitude towards alcohol. Two studies conducted twenty years apart have shown that primary age children typically dislike alcohol and possess negative attitudes towards drinking (Jahoda and Cramond 1972; Fossey 1993; 1994). However, this disapproval (and dislike) decreases with age. For example, Aitken (1978) examined the drinking habits of 10-14 year olds in Central Scotland. and found that, while 56% of 10 year olds said that drinking beer/lager was 'always wrong' only 30% of 14 year olds did so.

Gender

In general, in studies conducted in the United Kingdom males, regardless of age, consume greater quantities of alcohol more frequently and are more likely to drink to intoxication. Not surprisingly, males are therefore more likely than females to experience consequences associated with drinking more frequently (e.g. Bagnall 1988, 1991a). However, the trend towards 'catching up' observed in some studies (e.g. McAteer 1991 and Currie and Todd 1992) may be of some concern in that females typically with lower

body weight are more affected by a given amount of alcohol than are males (e.g. Thorley 1982). For similar reasons there is also evidence that the threshold where consumption becomes damaging in women may be lower than in men (Hendry et al 1993). Interestingly Currie and Todd found that although there was no association for males, females who drank regularly were more likely to view themselves as unhealthy.

Personal factors

This category potentially contains a multitude of factors such as curiosity, self-esteem, personality and pre-disposition to risk-taking. In most cases these factors will interact with all the other aspects of youthful drinking already outlined. For example, Hendry et al (1993) point out that leisure activities may be chosen both for their personal meaning and for their social expression, and maintain that adolescents' leisure can be seen as an interaction of underlying influences from within the individual and from the social environment.

Certain personality traits have been observed in association with heavier drinking. For example in Jessor and Jessor's study of problem behaviour theory, it was noted that heavier drinkers place less value on achievement as they have a greater tolerance of personal deviance. This has since been replicated by other studies (e.g. Mayer 1988). Moreover the relationship between personality traits, substance use and delinquency has been examined (Lavelle, Hammersley and Forsyth 1993). The findings were that

personality traits linked to substance misuse and to delinquent behaviour develop together.

A further personal characteristic that has been associated with heavier alcohol use is that of poor self-esteem and poor self-image. Schroeder, Laflin and Weis (1993) reviewed the literature on the causal role of self-esteem deficits in substance misuse. They concluded that the results were at best mixed, but strongly indicated no association.

There is much debate over whether some individuals are genetically prone to develop problematic styles of drinking. However, evidence of a genetic predisposition to alcohol problems is far from clear - and several studies have pointed out that if alcohol problems really do run in families, this could well be for social as well as biological reasons. (Goodwin 1976; Partanen, Bruun and Markkenan 1966; Kiianmaa, Tabakoff and Saito 1989; Kozlowsku 1991).

Gillies (1991) has also concluded that alcohol use may be associated with individuals who have a higher general risk profile. Certain authors (e.g. Baumrind 1987; Plant and Plant (1992) have asserted that adolescents may well be more inclined than older people to take risks.

Finally, young people's eagerness to try alcohol and other drugs is often attributed to natural curiosity associated with adolescent development. However, Plant and Plant

(1992) do not consider that this explanation adds much to the understanding of youthful patterns of substance use.

> 'Curiosity is not solely a youthful characteristic, nor does it explain why some people, after drug initiation, continue use or become heavy or problem users. It is emphasised that, while some individuals may be inherently more inquisitive, curious or venturesome than others, curiosity may be strongly influenced by social and cultural factors including, for example, peer pressure and mass media coverage of drug issues.' (Plant and Plant 1992: 8)

This brief review has by no means covered all aspects of adolescent alcohol use and misuse. Factors such as media coverage, particularly advertising, and issues such as availability and price are also important correlates of young people's drinking. However as the focus of the current study is on social and cultural factors, it was considered prudent to devote attention to these.

Is should also be noted that although O'Connor identified cultural factors as one of four discrete categories of factor likely to influence patterns of alcohol consumption amongst young people, in reality the concept of culture does inter-relate with many of the other variables. For example, lifestyle variables and how these are related to alcohol use may well be influenced by cultural factors. Similarly, other factors such as family structure and religious behaviour themselves form part of any society's culture. Thus, cultural factors must be considered in conjunction with other possible mediating variables.

1.2.2 Factors affecting smoking amongst young people

Goddard (1990) conducted a survey of pupils aged 11-19 in high schools in England and Wales. From her findings she concluded that the most important factors affecting youthful smoking were:

- having brothers/sisters who smoke
- having parents who smoke
- living with a lone parent
- being a girl
- having relatively less negative views about smoking
- not intending to stay on in full-time education after 16
- thinking that they might be a smoker in the future.

Under O'Connor's classification outlined above, these factors would be categorised under social and personal factors and parental and family related influences. Each of these areas will now be considered in turn.

(i) Parental and family related influences

Parents and siblings

Successive national surveys (in Great Britain and Northern Ireland) have shown that young people are much more likely to be smokers if other people in the family smoke, and that brothers and sisters appear to have much more influence than do parents (Goddard 1989; Craig, Francis and McWhirter 1991; Lader and Matheson 1991). Hence, for example in Northern Ireland in 1990, 17% of those who said that both parents

smoked were themselves regular smokers, compared to 5% of those who said neither parent was a smoker. With reference to brothers and sisters, 34% of pupils who had at least one sibling who smoked were regular smokers. This can be compared to 7% of those who had non-smoking siblings and 9% among those who had no siblings at home. This had led to the authors surmising that the presence of non-smoking siblings at home may actually reduce the likelihood of a pupils being a regular smoker (Craig, Francis and McWhirter 1991). This conclusion was also reached in the comparative study of young people in Scotland, England and Wales (Marsh, Dobbs and White 1986). In addition, Foster at al (1990) found that young women and men (aged 16-19) were most likely to smoke if both parents smoked, and least likely where neither parent smoked.

Lone parents

The national OPCS surveys (e.g. Lader and Matheson 1991) have observed that children of one parent families are more likely to be smokers, regardless of whether or not the parent smokes. Green at al (1990) also demonstrated this finding among 15 year olds in Central Clydeside in Scotland.

(ii) Social and personal factors

Gender

Goddard (1990) identified that young females were more likely than young males to smoke and that this risk factor was independent of all the other factors taken into consideration. She also found that females have lower concentrations of saliva cotinine (a derivative of nicotine) at any given level of subjective dependence, suggesting dependence at lower levels of tobacco consumption. Explanations of these gender differences vary. In their review of teenage drinking and smoking, Swan et al (1989) concluded that the fact that girls mature earlier than boys has combined with the change in social attitudes, so that girls exhibit smoking behaviour similar to boys one or more years older than themselves. Other studies have shown that teenage girls' smoking is linked to fear of putting on weight and the belief that smoking controls weight (ASH 1989, Gritz 1991). This finding has been supported by Currie and Todd (1992) who found that in girls poor body image was associated with smoking. Moreover, Piepe et al (1988) noted that girls who smoke tend to be less academically able, from working class backgrounds and have low levels of self-esteem.

Attitudes to smoking

Goddard (1990) employed the Theory of Reasoned Action (Fishbein and Ajzen 1975; Ajzen and Fishbein 1980) in her investigation into the uptake of smoking amongst young

people. This theory indicates that adoption of behaviour is likely to be preceded by attitude change. Goddard noted that this explanation was consistent with cessation of smoking by adults - actual cessation being preceded by the espousal of a more negative attitude towards smoking in general (or a more favourable attitude towards not smoking). Therefore she hypothesised that the uptake of smoking by young people would be preceded by the adoption of favourable attitudes. There was also evidence to support this view in relation to young people's use of alcohol (Aitken 1978) and of illicit drugs (Plant 1975). However, it was found that most young people, including smokers, had very negative attitudes towards smoking. Thus her conclusion was that young smokers merely tended to have less negative attitudes towards smoking than their colleagues who did not adopt such behaviour.

Education

National studies of adults have noted a clear association between the prevalence of cigarette smoking and highest level of educational attainment. In 1990, only 18% of men with a degree were smokers, compared to 37% of those whose highest qualification was at GCE 'O' level and 44% of those with no formal qualifications. Similar differences were shown amongst women (OPCS 1991).

Much the same relationship was found by the 'Smoking in Glasgow' report (RUHBC 1991). In this instance it was shown that 41% of males and 45% of females who finished

their full-time education at 16 or under smoked, compared to 21% males and 22% of females who had left after the age of 16.

> 'In general, it has been shown that children who smoke are more likely to be under-achievers at school, have low academic goals, be alienated from school and be less interested in continuing with their education.' (Amos and Hillhouse 1992: 61)

Future intentions

National studies of young people's smoking behaviour have shown that those who think they will smoke in the future are more likely to be smokers as adolescents. For example, in Northern Ireland in 1990, 9% of the sample of 11-15 year olds thought they would smoke daily after leaving school; this was heavily biased towards the regular smokers, of whom 57% claimed they would continue to smoke on a regular basis. This can be compared to 15% of occasional smokers and only 2% of those who had never smoked.

One variable often associated with uptake of smoking behaviour, that of peer's smoking behaviour was not considered in Goddard's study. Other studies do show that there is a link between peers' smoking and an individual deciding to become a regular smoker (Flay et al 1983; Nutbeam, Mendoza and Newman 1988). A survey conducted in England by MORI (1990) revealed that three quarters of regular smokers reported that most of their friends smoked, as opposed to only 3% of teenagers who did not smoke.

Another missing area of possible influence relates to cultural factors. It could well be that such factors affect youthful smoking in ways similar to their effects on young people's alcohol consumption, as shown by O'Connor (1978). The present study is thus designed to examine such possible connections further.

1.2.3 Factors affecting use of illicit drugs amongst young people

Plant and Plant (1992) concluded from their review of studies of drug use, that in general most of those who use illicit drugs do so for the same reasons that people smoke cigarettes or drink alcohol.

> 'The commonest reasons for initiating such activity are curiosity and peer pressure, often combined with normal youthful drives towards rebellion and a wish to engage in adult or risky behaviours.' (1992: 48)

Accordingly, many of the factors which have already been outlined in relation to use of alcohol and tobacco are also of relevance here. For example, surveys consistently show that extent of drug use amongst adolescents increases with age, and that males are more likely than females to use illicit drugs. However, this latter difference is often not substantial (e.g. Swadi 1988). Moreover, Swadi and Zeiltin (1988) have noted that although peer influence is a major factor in encouraging adolescent drug use, it may also serve to encourage the moderation or cessation of such use. One of the myths surrounding illicit drugs is that they are used only by those in the lower social classes. Empirical evidence has shown that drug use occurs amongst young people from all socio-economic backgrounds. However, use of heroin and opioids has been most

frequently noted amongst people living in economically and socially deprived areas (e.g. Pearson, Gilman and MacIver 1985; Dorn and South 1987; Parker, Bakx and Newcombe 1988).

As with smoking behaviour, the category of cultural factors has not received much attention. Accordingly, the study which forms this thesis will attempt to redress this gap by focusing on possible cultural differences in youthful drug use between the two countries under consideration, namely Scotland and Northern Ireland.

1.3 Rationale for the study

Many of the investigations into young people's use of alcohol, tobacco and illicit drugs conducted in the United Kingdom[1] have focused on some or all of these factors. However, as indicated above, one aspect which has received less attention is that of culture as it is often assumed that the United Kingdom is an homogeneous whole in this respect. However, according to the limited evidence available, there may be significant differences in the use of licit and illicit drugs between the different countries and indeed different regions, within the United Kingdom. In particular, studies into the incidence of alcohol consumption in Northern Ireland have highlighted a marked difference between drinking patterns there and those in the rest of the United Kingdom. Comparisons of surveys of adult drinking patterns have consistently shown that the proportion of people who abstain from alcohol is considerably higher than in Scotland, England or Wales

[1] The United Kingdom consists of Scotland, England, Wales and Northern Ireland. Great Britain (or Britain) consists of Scotland, England and Wales.

(Dight 1976; Wilson 1980; Sweeney, Gillan and Orr 1990; Barker and Thompson 1993). In contrast to this picture of restraint, other studies (e.g. Harbison and Haire 1982; Duffy 1988) have indicated that when the Northern Irish do drink they tend to consume larger amounts than their 'mainland' counterparts. Such polarisation has been associated with the development of drinking problems for two reasons - because there are no norms for moderate drinking, and because heavy drinking becomes established behaviour (Ullman 1968; O'Connor 1978).

This paradox in Northern Irish drinking habits has been echoed in the limited research conducted amongst young people in the Province. Once again comparison with data from Scotland, England and Wales have revealed that Northern Irish young people are less likely to have tasted alcohol or to be current drinkers. However, those who drink are more likely to be heavier drinkers. (Marsh, Dobbs and White 1986; Craig 1989; Craig, Francis and McWhirter 1991). They are also more likely than their peers in Great Britain to drink away from the home and in the company of peers, rather than parents, factors which have previously been shown to be related to more problematic alcohol consumption (Davies and Stacey 1972; Ghodsian and Power 1987). Support for the existence of regional variations of young people has also come from studies in Britain by Marsh, Dobbs and White (1986), Plant, Bagnall, Foster and Sales (1990) and Plant and Foster (1991).

Despite the marked differences shown by the survey data, there has been relatively little social and behavioural research into the patterns of drinking in Northern Ireland,

particularly amongst young people. For this reason, it was decided to undertake a cross-cultural study which would focus on the development of drinking habits amongst secondary school pupils in Northern Ireland and in Scotland, as part of 'mainland' Britain. In addition, for reasons already stated[1], information on smoking and illicit drug use was also sought. A further, central aspect to the study was to determine the extent of similarity or difference between other factors related to adolescent substance use and misuse between the two countries, and to discover how such variables may be mediated by or even themselves influence cultural differences.

1.4 Structure of thesis

This chapter has served as an introduction to the thesis and to the research topic. Chapter 2A provides an overview of the patterns of use of alcohol, tobacco and illicit drugs amongst adults and young people in the United Kingdom, drawing particular attention to differences between Northern Ireland and Great Britain. A critical evaluation of the possible harm associated with such behaviours is also presented. This is followed by Chapter 2B which contains an examination of the literature relating to Northern Ireland, with a view to establishing some of the reasons for the differences observed there.

[1]These were: firstly the possible correlations between such behaviours as postulated by Jessor and Jessor's (1977) problem behaviour theory; and secondly the 'gaps' in existing literature that were discovered in considering possible cultural influences on youthful smoking and drug use.

The remainder of the thesis describes the present study in full. In Chapter 3 the detailed aims of the study are presented, together with a full account of the methodology and techniques of statistical analyses employed.

Chapter 4 presents the findings on young people's drinking patterns. This includes the prevalence of drinking, levels of alcohol consumption and contextual information associated with such behaviour. Chapter 5 commences with a discussion of alcohol-related consequences, before proceeding to the findings on cigarette smoking and illicit drug use. In addition, this chapter also contains data relating to respondents' future intentions and to the degree of education and information they have received about alcohol, tobacco and other drugs.

Chapters 6 and 7 focus on some of the social, personal and family-related factors associated with adolescent alcohol and drug use. Factors to be examined include: personal income, religiosity, leisure activities, reasons for drinking, family factors (such as family structure and parents' attitudes towards alcohol), and peer group factors. Chapter 7 also incorporates a discussion of those young people who abstain from alcohol, and an investigation of their reasons for doing so. Throughout the results, information from young people in Northern Ireland will be compared to those in the Scottish group, taking into account such factors as age, gender, socio-economic status and religious affiliation.

The concluding Chapter, 8, restates the main findings of the research. It will also address the limitations of the project in addition to assessing the implications of the results both for future research and for informing policies related to youthful use of alcohol and other psychoactive substances.

CHAPTER 2A

PATTERNS OF USE OF ALCOHOL, TOBACCO AND ILLICIT DRUGS

Although the focus of this thesis is on young people, the use of alcohol and other drugs by adolescents can be more realistically appreciated by being placed in the context of the patterns of use of society at large. Therefore, the three sections of this chapter will commence with a brief overview of the drinking, smoking and illicit drug use behaviour of adults in the United Kingdom before focusing specifically on patterns of youthful drug use and harm associated with these. Where suitable data are available, attention will be drawn to similarities and differences in styles and patterns of substance use and misuse between Northern Ireland and the rest of the United Kingdom. The remainder of the literature review, presented in Chapter 2B, will present a discussion of some of the principal features of Northern Ireland which are believed to distinguish it from Scotland, England and Wales, and some thought will be directed towards how these may affect behaviours and attitudes relating to alcohol and other drugs.

2A.1 ALCOHOL

2A.1.1 Patterns of alcohol use amongst adults

Plant and Plant (1992) note that most young people in Britain are raised in a wet culture, i.e. one where drinking is both widely practised and generally regarded as a legitimate and enjoyable activity. The sustained use of alcohol throughout history has resulted in it being known as 'our favourite drug' (Royal College of Physicians 1986).

In terms of current national information, the major source of reference is provided by the General Household Surveys (GHS), conducted by the Office of Population Census and Surveys (OPCS). These question around 20 000 people in Scotland, England and Wales (but do not include Northern Ireland) annually on a wide range of topics. Questions about alcohol were first included in 1978 and have since then been repeated every two years. In 1992, the latest figures available at the time of writing, 94% of all men aged 16 and over in Great Britain consumed alcohol, compared to 88% of females. These proportions have remained fairly constant for the past decade.(Thomas et al 1994: 84). Not only do more men drink, but they are also more likely to be heavier consumers of alcohol. In 1992, men were shown to be drinking on average 15.9 units[1] of alcohol per week. This equates to eight pints of beer or sixteen single measures of spirits. The average for women was somewhat lower, at 5.4 units per week.

To place these amounts into some context, the Royal Colleges of Psychiatrists (1986), General Practitioners (1986) and Physicians (1987) have identified general guidelines for 'low' and 'high' risk levels of consumption. 'Low risk' levels are up to 14 units per week for adult females and up 21 units per week for adult males. The lower limits set 'high risk' weekly consumption at more than 35 units for females and more than 50 units for males. From the 1992 figures it can be seen that 27% of men consumed more than 21 units of alcohol per week, although it should be noted that this proportion has remained fairly constant since the mid-1980s. However the

[1] Throughout this thesis 'units' refer to Standard Alcohol Units. A single unit contains approximately 7.9 grammes or 1 centilitre of absolute alcohol, and is equivalent to half a pint of ordinary strength (3.5% alcohol by volume) beer, lager or cider, or a glass of wine, or to a single public house measure of spirits in Scotland, England and Wales (in Northern Ireland, two thirds of a single measure of spirits is equivalent to a unit).

picture for women was slightly different: although only 11% drank more than the weekly recommended 'low risk' limits of 14 units, this did represent an increase of over 2% since 1984. Thus, there appears to be some evidence that women are 'catching up' with men, and are increasing their average alcohol consumption.

Nevertheless, only a minority of both sexes are thought to be consuming excessive amounts of alcohol on a regular basis. The GHS survey shows that the proportions of men and women drinking more than the maximum safe limits (50 units for men and 35 for women) had remained fairly stable: 6% for man and 2% for women. Younger people (aged between 16 and 24) accounted for a higher proportions of these heavier drinkers. Hence 32% of men aged between 16 and 24% drank more than 21 units per week, compared to only 15% of those aged 65 and over. Similar differences were shown to exist amongst women.

The GHS surveys also examine the data for regional variations in drinking patterns. In 1992, men in Scotland were slightly more likely to be non-drinkers than their English or Welsh counterparts. On the other hand, women in England were less likely to drink than women in Scotland or Wales. While Scottish men displayed the highest average weekly units (16.9), mean weekly consumption amongst Scottish women (4.6 units) was the lowest in Great Britain. However, most of these differences were too small to be statistically significant[1].

[1]Throughout the thesis, the term 'significant' will refer to real differences or associations as indicated by the appropriate statistical tests. This means that the results reported could only have occurred by chance in 5% or fewer of samples of the same population.

Additional data on national drinking habits have been provided by Social Attitudes Survey information. The 1991 survey showed that around 92% of men in Great Britain did consume alcohol, albeit on an infrequent basis (Jowell, Brook and Taylor 1991). Their figure for women, at 77%, was somewhat lower than that obtained by the OPCS (88%), but this discrepancy could be accounted for by differences in methodology[1]. As information for the GHS is collected through face-to-face interviews, time constraints mean that alcohol consumption is most efficiently measured by asking respondents how often they have drunk each of five different types of drink in the previous year and how much of these they usually drank in any one day. From these composite figures, a measure of average weekly drinking can then be derived. As such, no information on actual drinking frequency is obtained. An alternative approach, used in self-completion surveys (and the Social Attitudes Surveys), is to ask the respondents how often they consume alcohol. This has the advantage of being more specific on frequency of drinking, but does not obviously address the issue of quantity of alcohol consumed. Information pertaining to the latter is most commonly collected in the form of a drinking 'diary' in which respondents are asked to retrospectively complete, inserting the previous seven days' consumption figures.

Despite such discrepancies, marked differences were observed between the figures for adults in Great Britain and in Northern Ireland. Amongst the latter group 20% of males and 40% of females reported that they never drank alcohol. Moreover there were more regular drinkers (those who consumed alcohol at least once a week) in the

[1]Very infrequent use is captured by the GHS surveys, but not by the Social Attitude Surveys.

Great British sample than amongst the Northern Irish. Even allowing for the differences in rates of non-drinking, 69% of Northern Irish men and 39% of the women, as compared to 74% of men and 53% of women from Great Britain reported drinking at least once a week (Barker and Thompson 1993). Unfortunately this survey provided no information on quantities of alcohol consumed on each drinking occasion.

Another survey, undertaken in Northern Ireland to measure the effects of the introduction of the Licensing (Northern Ireland) Order 1987[1], found similar rates of abstention (73% of men and 59% of women drank alcohol) and of weekly drinking (60% of men and 40% of women drank at least once a week) to those revealed by the Social Attitudes Survey. This study also obtained information on weekly alcohol consumption. Based on the previous week's figures, it was found that males in Northern Ireland in 1989 had an average consumption of 17.74 units, while that for females was 7.23 units (Sweeney, Gillan and Orr 1990). Hence, bearing in mind that there would have been differences in methodology between this survey and the OPCS British surveys, it appears that although fewer Northern Irish people drink and that drinkers there consume alcohol less frequently, average weekly consumption is higher than in the rest of the United Kingdom. The logical conclusion is that drinkers in Northern Ireland consume larger quantities at each drinking 'occasion'.

Support for this pattern of drinking comes from a study conducted some years earlier in Northern Ireland (Harbison and Haire 1982). The authors of this report found that

[1]This allowed public houses to open on a Sunday.

although levels of drinking amongst men were lower than in England, Wales or Scotland, drinking in Northern Ireland was concentrated into fewer sessions each week. Thus their report concluded that when this concentrated drinking style was considered in conjunction with the high level of abstinence, there was evidence of polarisation of drinking behaviour.

2A.1.2 Patterns of alcohol use amongst young people

A considerable number of studies of youthful drinking habits have been conducted in the United Kingdom and Ireland since the 1970s. Most information on this topic has been collected by the use of large scale surveys based on self-reports. Many of these have recently been reviewed by several authors (May 1992; Plant and Plant 1992; Lister Sharp 1994, Fossey, Loretto and Plant 1996). These surveys, despite being inevitably flawed by refusal to cooperate, by non-contact with potential respondents and by inaccurate reporting by those who do co-operate, do provide a useful and fairly consistent picture.

Although precise proportions fluctuate between studies, the general picture is that very few British teenagers have not consumed alcohol by the age of 16. In fact, in her review of some of the main studies (Bagnall, 1988; Ghodsian and Power 1987; Hawker 1978; Plant, Peck and Stuart 1982; Plant et al 1990; Plant and Foster 1991), Lister Sharp (1994) concluded that by the age of 16 years old, 90% of young people in Great Britain will have tasted alcoholic drinks. Thus the prevalence of drinking is similar to that exhibited by those aged 16 and over.

As May (1992: 109) has commented:

> 'Ascertaining the extent of alcohol use and misuse across the adolescent population is a formidable task. Alcohol consumption is unequally distributed across a heterogeneous population, intersected not only by social class, gender and ethnicity, but also by regional variations.'

It is this final category - differences between the regions or countries of the United Kingdom - that will form the focus of this review of the literature. However, attention will also be paid to gender and age, as they are shown to significantly affect drinking patterns in any survey of alcohol use.

The first national picture of adolescent drinking habits was provided by a survey of 13-17 year olds in England, Wales and Scotland (Marsh, Dobbs and White 1986). This study investigated the drinking patterns of 4 908 young people aged between 13 and 17 years old. Those aged between 13 and 15 completed questionnaires in school (probably the most popular method for obtaining information on adolescent drinking), whilst the older teenagers were seen at home as part of the 1984 General Household Survey. The authors found that in England and Wales, the majority of adolescents had consumed their first 'proper' alcoholic drink (i.e. not just a sip) by the age of 13. Only 18% of 13 year old males and 24% of 13 year old females reported that they had never tasted alcohol or consumed a 'proper' drink. Drinking prevalence was shown to increase with age, so that by the age of 17, only 8% of males and 9% of females had never consumed alcohol. In reporting the results of this study, the authors highlighted some differences in behaviour between the countries. In particular, it was noted that Scottish adolescents commenced their drinking careers

later than their English and Welsh peers: at 13 years of age, 29% of Scottish males and 43% of Scottish females had never had a whole alcoholic drink. However, this gap closed with age, and by the age of 17, only 7% of Scottish males and 8% of Scottish females purported to abstain from alcohol. In addition to the sharp decrease in the number of abstainers with age, these figures also reveal that at the younger ages, males were more likely than females to have consumed alcohol, but that these gender differences appeared to lessen with age.

The precise proportion of abstainers fluctuates between studies, perhaps due in part to the difficulties associated with data collection noted above, but also due to differences in methodologies, sampling techniques etc. However, the consensus from the majority of studies is that drinking is normal behaviour among adolescents and teenagers.

Marsh and his colleagues also collected extensive information on respondents' current drinking practices. Although a very small proportion of those teenagers who had consumed alcohol reported that they no longer drank alcohol, the vast majority did drink, at least a few times a year. Once again, differences were observed in relation to gender, age and country. These are elaborated by Table 2A.I below.

Table 2A.I: Frequency of drinking by country and age

Frequency		13 year olds (%)		17 year olds (%)	
		Males	Females	Males	Females
England & Wales					
At least once a week		29	11	61	54
A few times per year		50	63	13	21
Scotland					
At least once a week		14	7	47	36
A few times per year		62	68	20	36

Adapted from: Marsh, Dobbs and White (1986)

Thus, it can be seen that frequency of drinking increased with age, and that even at the older age, males were more likely than females to drink more frequently. As regards country differences, for each age and for both males and females, fewer Scots were regular drinkers, consuming alcohol once a week or more. In light of this, it was concluded that not only were young people in Scotland slower to take up drinking, but even once they had done so, they drank less often than their peers in England and Wales.

With regard to the amount of alcohol consumed, quantities consumed during the week preceding the survey were determined. These details were collected in the form of a drinking diary, similar to that employed to collect information on adults' drinking patterns. Sixty-six per cent of English and Welsh 13-15 year olds and exactly half of all Scottish respondents aged between 13 and 15 reported drinking in the previous week. Interestingly, the figure for 16 and 17 year olds in England and Wales was slightly lower (61%). The authors attributed this unexpected finding to

differences in the method of data collection: the 16 and 17 year olds were interviewed at home and consequently are thought to have deliberately under-reported their consumption as parents could well have been present. Nevertheless, the proportion of older Scots claiming to have consumed alcohol in the previous week was virtually identical to the younger group (51%).

Not only did fewer Scots drink in the diary week, but also the English and Welsh were more likely to drink on two or more days within that week. For example, amongst 13 year old diary drinkers, 26% of Scottish males and 17% of females drank on three or more days. In England and Wales the figures were 40% and 31%. Such differences were also apparent amongst the older ages. Nevertheless, most young people reported drinking only modest amounts during the diary week. About half of the 13 year olds drank fewer than four units in the week. Consumption was shown to increase with age, particularly amongst males. Gender differences were most marked amongst the older teenagers. For example, in England and Wales, a quarter of 16 year old males reported weekly drinking of more than 15 units of alcohol, compared to only 11% of females. The difference was even greater in Scotland: 32% of males compared to 9% of females. Thus, although, Scottish young people were less likely than their English and Welsh peers to be frequent drinkers, males in Scotland were shown to be heavier consumers according to diary week consumption.

Overall, Marsh, Dobbs and White concluded that the relationship between consumption and frequency of drinking was much the same as amongst adults.

> 'The majority who drink in a typical week drink once or twice and take relatively modest amounts of alcohol when they do so. A minority drink more often and drink rather more when they do. Fewer drink little and often, fewer still drink rarely but deeply.' (1986: 38)

Other studies of note include two parallel national studies of teenagers aged between 14 and 16. These were conducted in England (Plant, Bagnall, Foster and Sales 1990) and in Scotland (Plant and Foster 1991). These both revealed that only a minority of respondents reported abstaining from alcohol (4% and 3% respectively). They also reported differences which were broadly in line with those observed by Marsh, Dobbs and White (1986). Thus it was found that the Scottish teenagers were less likely than their English peers to drink frequently, but that they were more likely to be heavier drinkers, in terms of amount of alcohol consumed at their most recent drinking occasion. Males were also more likely to drink more heavily.

Also about this time Bagnall (1988; 1991a) conducted a survey of younger teenagers, aged 12-13 in three areas of Britain - these were Highland, Dyfed and Berkshire. Only 4% of this sample had never tasted alcohol, and 15% had consumed alcohol within the week before the survey. She also found that very few of the young people had consumed more than 4 units of alcohol at their most recent drinking occasion. Although this study did show that males were more likely to have consumed alcohol in the week before the survey and that the amount consumed was greater, no analysis was presented by region (Bagnall 1991a).

More recent evidence of teenage drinking in Scotland, England and Wales has been provided by Goddard's (1996) study conducted in 1994. In line with the studies

conducted 8 years earlier, she found that overall, the proportion of young people drinking in the week before the survey was significantly lower in Scotland, but those who did drink drank more than south of the border.

However, the main regional differences in lifetime experience of drinking within the United Kingdom occur when drinking patterns of Scotland, England and Wales are compared to those in Northern Ireland.

Two surveys were undertaken for the Department of Health and Social Services, Northern Ireland in 1988 and 1990 (Craig 1989; Craig, Francis and McWhirter 1991). When the results of these studies were compared to those of British surveys (e.g. Marsh Dobbs and White 1986), it was found that Northern Irish young people are less likely to have tasted alcohol or to be current drinkers. The first of these Northern Irish studies surveyed school pupils aged between 11 and 17 and reported overall abstinence rates of 39% for males and 60% for females; the second included only those in the 11-15 year old range, of whom half of the males and nearly two thirds of the females had never consumed a whole alcoholic drink. The differences between the figures produced from these reports are probably due to the different age groups surveyed. Both reported similar drinking prevalence levels for those respondents aged 11. They indicated that 78% of males and 84% of females aged 11 had not consumed alcohol. The 1989 study further showed that the proportion of non-drinkers among the 17 year old age group had decreased to 16% of the males and 26% of the females. The second study reported 78% and 62% for its 15 year old males and females respectively (Craig, Francis and McWhirter 1991).

The 1989 survey compared its results directly to those obtained by Marsh at al (1986) in Great Britain, and found that for all ages experience of alcohol was much less than in the rest of the United Kingdom. Moreover, with one exception (17 year old males), it was revealed that young people of all ages in Northern Ireland were more likely to no longer drink after their first proper drink. Taking this into account, 53.7% of the Northern Irish sample were non-drinkers (46% of males and 67% of females). A similar finding emerged from the Northern Irish study completed two years later, where a even higher proportion, 63%, purported not to currently drink alcohol. It is again noted that this last group was younger than the others.

Therefore, although available evidence indicates that very few teenagers in England, Wales and Scotland do not drink alcohol, a higher proportion of those in Northern Ireland are non drinkers, consistent with the "drier" and more polarised drinking cultures of that country.

In Northern Ireland, about 40% of young people reported drinking only a few times a year. As with the other countries, frequency was strongly related to age: amongst 12-13 year olds, 21% males and 18% females drank at least once a week, compared to 54% males and 56% females who consumed alcohol a few times a year. Around half of all 17 year olds (49% males and 51% females) drank weekly, and 39% of males and 41% of females of that age imbibed only a few times a year.

Nevertheless the 17 year old groups may not be directly comparable as the Northern Irish group was school based, and comparisons across the full range of ages revealed

that 16 year old males in Northern Ireland were more likely to report drinking at least once a week than their counterparts in Great Britain. However, for all other ages it was noted that males in England and Wales were more likely to be frequent drinkers than those in either Scotland or Northern Ireland. On the other hand, Northern Irish females were more likely than their Great British counterparts to be classed as frequent drinkers at every age except 15.

In spite of this, a much smaller proportion of the Northern Irish sample had been drinking in the week preceding the survey. For example, in England and Wales 65% of males and 47% females aged 12-13 had done so compared to 45% of males and 32% of females in Scotland, and 14% of males and 11% of females in Northern Ireland. These country differences, although somewhat modified were still apparent amongst the 17 year olds. This very low figure for Northern Ireland was also observed in the 1990 survey, where just 13% of pupils filled in a drinking diary.

However, to obtain a better comparison, it is necessary to measure the number of diary drinkers as a proportion of drinkers rather than of all pupils. Taking into account the different rates of abstention, just over half of current drinkers in Northern Ireland had consumed alcohol in this week, compared to 60% of Scottish drinkers and 72% English and Welsh drinkers. With reference to drinking frequency within the diary week, it was noted that males in Northern Ireland drank on more days than the Scots and almost as frequently as the English and Welsh.

A further interesting difference emerged when the amount of alcohol consumed in the diary week was examined. National comparisons are elaborated by Table 2A.II below:

Table 2A.II: Alcohol consumption amongst diary week drinkers, by country

Country		% consuming more than 10 units		% exceeding adult weekly 'low risk' limits	
		Males	Females	Males	Females
Northern Ireland		60	32.3	26	18.5
Scotland		40	22	14.3	12.9
England & Wales		38	19.6	13	13.4

Source: Craig (1989: 31)

From Table 2A.II, it can be seen that on one hand the proportion of drinkers in Northern Ireland consuming less than 10 units of alcohol in the diary week was less than their peers in Great Britain. However, in marked contrast, the proportions of drinkers, both male and female who exceeded the *adult* weekly 'low risk' limits of 21 units for men and 14 units for women, was considerably higher in Northern Ireland. Moreover, despite including a significantly younger sample, the 1990 survey also found that more than one fifth (21%) had consumed more than the adult low risk limits.

> 'This all suggests that young drinkers in Northern Ireland follow a very similar pattern of consumption to their elders - gravitating around the extremes of abstinence and over-indulgence.' (Craig 1989: 32)

From these comparisons it can be concluded that Scottish teenagers were more likely than those south of the border to drink relatively large amounts and those from Northern Ireland drink even greater quantities than the Scots.

As mentioned at the beginning of this section there have been several recent reviews undertaken of surveys of alcohol use amongst adolescents. For this reason, this review does not propose to duplicate the work contained in these. In particular, May (1992) has produced a very detailed review of adolescent alcohol use in Britain between 1970 and 1991 and presents a useful table summarising the key findings of 19 of these studies. However, before embarking on further aspects of youthful alcohol use, there are two further studies of particular relevance to introduce.

In 1990 a survey was undertaken of the health behaviours of Scottish young people, aged 11, 13 and 15 years old (Currie and Todd 1992). This formed part of the wider World Health Organisation comparative exercise examining health behaviours of schoolchildren. These authors found that one fifth of 11 and 13 year olds indicated that they were non-drinkers (this figure includes those who had never drunk alcohol and also those who did not currently drink). It was further noted that the proportion abstaining from alcohol had fallen to 10% of 15 year olds.

As with the OPCS survey, this study also showed that frequency of drinking increased with age. Only 4% of 11 year olds claimed to drink once a week - this rose to 30% of 15 year olds. However, unlike the previous national study, gender

differences were only apparent for the 11 year olds, where males were significantly more likely to drink weekly. (6.2% compared to 2.7% of females). The prevalence of weekly drinking among 13 year old males was 15.2%, and for females, 16.8%. This further rose to 29.8% of 15 year old males and 25.5% of females in that age group. However, the gender differences for the 13 and 15 year olds were not significant. Thus, as with trends in adult drinking patterns, there may be some indication that younger females are 'catching up' with males.

This proposition was also made by McAteer (1991) reviewing the findings of her study of 12-17 year olds in West Belfast in Northern Ireland. Overall figures from this study showed that 28.8% (27.3% of males and 30.4% of females) had never consumed a whole drink of alcohol. This ranged from 77.6% of those aged 12, 16% aged 16 and less than 3% of young people aged 17. However, in relation to gender, McAteer noted that there was less of a disparity between females and males than observed in the DHSS study (Craig 1989) and argued for a 'catching up' in the intervening years. It was noted that these figures were considerably lower than the proportions of abstainers measured in the 1988 national survey discussed above (Craig 1989). This discrepancy was attributed to the West Belfast study being conducted in an urban area[1]. In addition to finding fewer young people who did not drink, this study also reported more frequent drinking. Nearly 53% reported consuming alcohol at least once a week, and only 14% reported drinking a few times a year. Again this was very much related to age with none of the 12 year olds

[1]There is evidence from studies of adult drinking in Northern Ireland (e.g. Blaney and MacKenzie 1978 , Harbison and Haire 1982 and Sweeney, Gillan and Orr 1990) that drinking is more prevalent in urban locales as compared to more rural situations.

reporting that they usually drank at least once a week, and 68% of the 17 year olds claiming they did so.

Despite these proposed differences, a fairly similar proportion of drinkers to the national sample claimed to have been drinking in the week preceding the survey. Thus, 54.1% of drinkers completed the diary - this corresponded to 2.9% of 11 year olds, 10.6% of 13 year olds and rose to over 66% of 16 and 17 year olds. At all ages more males than females completed the drinking diary.

In addition to measuring prevalence of alcohol use, most research into adolescent drinking has investigated the contextual nature of that drinking and its relationship to the type of behaviour adopted. Evidence from reviews undertaken by May (1992) and Lister Sharp (1994) shows that, in general, as teenagers grow older, they move from drinking in their own homes to drinking with friends in other places. In this vein, a range of studies (e.g. Davies and Stacey 1972; Jessor and Jessor 1977; Marsh Dobbs and White 1986; Ghodsian and Power 1987; Craig 1989) have examined variables relating to drinking venue and drinking companions, and how these affect styles of drinking.

In brief, the conclusion reached from the findings is that drinking outside the home and in the company of peers, rather than parents, is related to higher alcohol consumption. Moreover, the national differences in levels of alcohol consumption are also reflected in the choice of drinking location and companions. For example, data from the study undertaken by Marsh, Dobbs and White (1986) show that such age-

related changes took place at an earlier age amongst the Scottish drinkers. Moreover, the results from the DHSS study in Northern Ireland demonstrated that the proportions drinking in unspecified places (the author surmised these were parks, wasteland and on streets) were much higher there at each age from 13 -15 years old than in Scotland, England or Wales. The young people from Northern Ireland were less likely to consume alcohol in the company of parents or other relatives, and more likely to prefer the company of peers. Furthermore, at every age, and for both genders, young people in Northern Ireland were more likely than their Great British counterparts to be solitary drinkers (Craig 1989).

2A. 2 SMOKING

2A.2.1 Patterns of Smoking amongst Adults

As with adult alcohol consumption, the main source of smoking statistics in Great Britain is the General Household Survey, which has been collecting information on cigarette smoking since 1972. In 1992, 28% of people aged 16 and over in Scotland, England and Wales were cigarette smokers (Thomas et al 1994). This represents a decrease of 2% since 1990 and continues the longer term downward trend in the proportion of the population who smoke. There has also been a marked narrowing of the gap between the proportions of men and women who smoke. Thus, for example, in Britain in 1972, 52% of men and 41% of women smoked, compared to 29% of men and 28% of women in 1992.

It is thought that this decline is due to two factors, the proportion of people starting to smoke declining accompanied by the proportion of people giving up increasing. The narrowing of the gap between men and women has been attributed more to slower decline in uptake of smoking amongst young women than to lower 'quitting' rates (Amos and Hillhouse 1992). Men are more likely than women to have given up smoking. However, as Thomas et al (1994) point out, the overall difference conceals a fact that a proportion of men who give up smoking cigarettes either switch to or continue to smoke cigars or pipes. This is much less common amongst women.

Scottish figures have always been higher than the national average: in 1992, 28% of adults in England were cigarette smokers, compared to 32% in Wales and 34% in Scotland. In reviewing the 1990 GHS figures, Amos and Hillhouse (1992) commented that the smoking rates among women (35%) in Scotland are higher than for men (33%). This discrepancy had appeared for the first time in 1988 and increased in 1990. However by 1992, the rate of smoking amongst Scottish women had fallen to 34%, and that for the men increased to 34%.

The proportion of smokers was seen to be highest among the 20-24 year olds: 39% of men and 37% of women in this age group were classed as smokers. Thereafter, the older people were, the less likely they were to be smokers. On a positive note, although there had been some worry that the proportion of 16-19 year olds who smoked had increased between 1988 and 1990, this had fallen back below the 1988 levels by 1992.

Prevalence of smoking has shown a constant relationship with socio-economic group. In Great Britain as a whole, smoking prevalence for both genders is lowest among professional groups and higher for those in manual compared to non-manual occupations. Moreover, although cigarette smoking has declined in all socio-economic groups, the decline has been more marked in non-manual groups, so that the difference between the groups has become even greater (Thomas et al 1994: 57). For example, in 1992, only 14% of professional men and 13% of women smoked cigarettes, compared with 42% of men and 35% of women in the unskilled manual group. In their review of the smoking literature relating to Scotland, Amos and Hillhouse (1992) note that similar patterns have been observed in Scotland (McQueen et al 1989).

In terms of average weekly cigarette consumption amongst those who smoked, the amount smoked by males decreased from 129 in 1976 to 115 in 1986 and increased to 120 cigarettes in 1988, falling back to 118 in 1990. There was a further decline to 112 cigarettes in 1992. Amongst women, from 1972 to 1980 cigarette consumption increased from 87 to 102, but has since fallen back to 97, where it has remained stable for a number of years. Unlike prevalence of smoking, the highest weekly consumption is constantly observed amongst men and women aged between 35 and 59. In contrast, the younger age groups, the 16-19 year olds in particular, have shown a marked decrease in the number of cigarettes consumed. Thus, for young smokers of both genders, average weekly cigarette consumption was lower in 1992 (81 cigarettes for men and 70 for women) than at any time since the surveys started in 1972.

Although, Amos and Hillhouse commented that cigarette consumption is not strongly related to socio-economic group, between 1990 and 1992 there appears to have been a widening of the gap between professional and unskilled manual women. In these two years the consumption of the former group decreased from 94 to 74 cigarettes per week, while that of the latter increased from 99 to 103. These differences were not as marked for men. Regional Trends (1996) information (produced by the Office for National Statistics) has shown that there are more heavy smokers (consuming 20 or more cigarettes per day) in Scotland than in England or Wales. In 1994, 16% of Scottish males were classed as heavy smokers, compared to 11% of their English and Welsh counterparts. Twelve percent of Scottish women smoked 20 or more cigarettes per day - this was compared to 8% of women in Wales and 7% in England.

As the GHS figures cover Great Britain only, figures from Northern Ireland are not included. However, Barker and Thompson (1993) quote figures collected by the Social Attitudes Surveys which show that in 1991, 35% of men and 33% of women in Northern Ireland admitted to being regular smokers. They noted that these figures were identical to those collected in the British Social Attitudes Survey (Ben-Shlomo, Sheiham and Marmot 1991). Again it was found that young people were most likely to smoke, with 45% of women aged 16-34 in Northern Ireland being smokers, compared to 39% of young men. These figures were noticeably higher than the comparable British figures of 33% of women and 31% of men aged 16-34. The Policy, Planning and Research Unit, in 1992, had also shown that young women in Northern Ireland were markedly more likely than their male peers to be smokers.

Patterns relating to socio-economic group were also similar to those observed in Britain by the GHS surveys. Thus, lower rates of smoking were observed amongst men and women from non-manual social classes. Regional Trends (1996) reports information from the Northern Irish Continuous Household survey which shows that in 1994 the proportion of heavy smokers (20 or more cigarettes daily) was higher there than in England or Wales, and came close to the Scottish levels described above.

2A.2.2 Patterns of smoking amongst young people

The main source of information on young people's smoking is also provided by the OPCS. The 'Smoking Among Secondary School Children' series, commenced in 1982 and respresentatively samples children aged between 12 and 15 years old in England, Wales and Scotland. The survey conducted in 1990, and reported by Lader and Matheson (1991) is chosen as the principal focus of this review, as data collected in the same year in Northern Ireland (Craig, Francis and McWhirter 1991), using the same methodology allow for national comparisons across the United Kingdom.

Since the first survey in Britain in 1982 there has been a decline in the numbers smoking. In terms of lifetime prevalence, 52% of Northern Ireland pupils had tried smoking; this compared to 51% in Scotland, and 43% in England and Wales. Not surprisingly, smoking experience was shown to vary significantly with age. For example in Northern Ireland, 29% of 11 year olds had tried smoking compared to

70% of those aged 15 years old. In Scotland and England the 1990 figures represented a small decrease since the mid 1980s, but had remained fairly stable in Wales. In Northern Ireland, a significant decrease of 5% had been noted since 1983.

As with lifetime prevalence, there were differences between the countries. When current smokers were examined, comparison of figures obtained in the two studies showed that the highest proportion of current smokers were to be found in Scotland, where 19% of pupils were either regular or occasional smokers[1]. This compared to 17% in Northern Ireland, 15% in England, and 12% in Wales. In fact in 1990 all pupils in Scotland (measured in the age range 12-15 years old) were more likely to be regular smokers (apart from 15 year old Scottish boys) than their equivalent age groups in Northern Ireland, England and Wales.

In Northern Ireland, there was little change in the proportion of current smokers since previous surveys in 1983 and 1986. The picture was slightly more complicated for the rest of Great Britain. The 1986 survey (Goddard and Ikin 1987) had reported a marked fall in the number of males who smoked regularly. However this decline was not continued in the 1990 survey. Amongst girls, the marked fall was observed only in Scotland. The 1990 figures show that smoking among girls in Scotland continued to decline, but that in England and Wales the proportions of girls who smoked weekly increased. Thus, in 1990, smoking was more prevalent among females in England and Wales and in Scotland. Although in Northern Ireland, lifetime

[1]Regular smokers were defined as those who reported smoking at least one cigarette per week; occasional smokers were those that indicated they usually smoked but consumed less than one cigarette per week.

prevalence was higher amongst boys, both genders were equally likely to be current smokers. Another study of Scottish school pupils aged between 11 and 15 (Currie and Todd 1992) showed similar gender differences to those observed in the OPCS studies.

Considering only those pupils who were classed as regular smokers, it was seen that in Northern Ireland and Scotland, 12% of pupils smoked on a weekly basis, which was higher than the 10% found in England and Wales.

As regards consumption, this was measured using a smoking diary, where respondents were asked to complete retrospectively the number of cigarettes they had consumed each day over the past seven days. From this it was shown that the average number of cigarettes smoked in the week preceding the survey was higher in England (35) and Wales (36) than in Scotland (32) and Northern Ireland (32). The higher levels in England and Wales were accounted for by the males, Welsh males being particularly likely to report a high weekly consumption. However, comparison of the *median* number of cigarettes smoked indicated that Welsh boys and Northern Irish females were much heavier smokers than the others. This information is elaborated by Table 2A.III below. It is noted that the median may give a more accurate 'average' than the arithmetic mean since it is less affected by outliers (e.g. Craig, Francis and McWhirter 1991).

Table 2A.III: Median number of cigarettes smoked weekly, by country

		N. Ireland	England	Scotland	Wales
Boys		16	17	16	30
Girls		21	15	15	15
Total		19	16	15	19
Bases		287	494	530	433

Adapted from: Lader and Matheson (1991) and Craig, Francis and McWhirter 1991

Thus, as with adults' smoking behaviour, gender and country differences are noted. No information on social class is collected in the OPCS surveys of young people. Nevertheless in their survey of Scottish school pupils, Currie, Todd and Wijckmans (1993) described the relationship between smoking and socio-economic background as 'complex'. These authors found that 11 and 13 year olds from professional backgrounds (as identified by father's occupational status) were less likely than others to have tried smoking. However this difference was not apparent among the 15 year olds. Current smoking status was not related to father's occupational status, but 11 year olds from 'deprived' families were more likely to be current smokers. Also in Scotland , the MRC West of Scotland Twenty-07 study found higher rates of smoking among 13 year olds from manual households where 15% were daily smokers, compared to 8% from non-manual households. This gap was increased among 16-17 years olds.(Green et al 1991).

Lastly, surveys which have examined both smoking and drinking amongst young people have inevitably found a positive association between the two behaviours (e.g. Goddard 1989; Craig, Francis and McWhirter 1991; Green et al 1991). However, it is important to note, as Currie and Todd (1992: 24) do, that: 'This does not imply a causal relationship but rather that similar factors influence the establishment of both patterns of behaviour in young people'. This is also the premise of 'problem behaviour theory' (nb.. Jessor and Jessor 1977), outlined in Chapter 1.

2A.3 Illicit Drugs

For the purposes of this thesis, 'illicit drugs' are defined as substances covered by the Misuse of Drugs Act 1971 and by related legislation. Thus the definition incorporates cocaine, opium, heroin, methadone, LSD, barbiturates, mescaline, psilocybin (magic mushrooms), ecstasy (methylenedioxymethamphetamine), cannabis, amphetamines and tranquillizers. 'Prescribed drugs' are taken to be substances which are normally available on prescription. but may be used on a non-prescription basis. These include amphetamines, 'strong' painkillers, such as DF118, and tranquillizers. Solvents and other volatile substances which may be inhaled are also included under the heading of illicit drugs.

The information on patterns of use of illicit drugs is not nearly as plentiful as that on drinking and smoking. Particularly amongst the adult population, its very illegality prevents the collection of data in any systematic way by the GHS. Moreover,

although use of alcohol and tobacco is spread throughout the age span, the use of illicit drugs is often perceived as being a behaviour solely of the young (Plant and Plant 1992). For these reasons, this section will not be split into adults' and young people's use, but will consider use of illicit drugs in one category. Data on national patterns of use are provided by the British and Scottish Crime Surveys.

Hammersley (1994) presents the use of controlled drugs and solvents, as reported in the 1993 Scottish Crime Survey. This study interviewed 3 381 individuals in their homes - the resulting sample being representative of Scotland. The majority of the respondents were aged between 16 and 59, although the sample included 495 individuals aged between 12 and 15. The questions were designed to elicit details of respondents' knowledge and use of drugs, and were identical to those used in the 1992 British Crime Survey in England and Wales (Mott and Mirrlees-Black 1993).

According to Hammersley, the use of illicit drugs first noticeably increased in the UK in the 1960s. Wright and Pearl have interviewed young people (aged 14-15 in Wolverhampton) every five years since 1969, with a view to examining their knowledge and experience regarding drug misuse. In the latest study (1994, reported in 1995) they noted that the use of drugs has 'relentlessly' increased in these 25 years. In the United Kingdom, the number of notified drug users has increased from just over 3 000 in 1981 to nearly 34 000 in 1994 (Regional Trends 1996). However, the Home Office themselves consider that most addicts notified to them is probably only a small proportion of regular (mis)users (Home Office 1990b). Nevertheless,

Wright and Pearl conclude that especially in the five years between 1989 and 1994, young people's exposure to illicit drugs has increased rapidly.

Returning to the Scottish Crime Survey, overall, approximately 21% of Scottish males aged between 12 and 59, and 14% of females, reported using a controlled drug at least once. Drug use amongst males was highest for those in the 20-24 age group, while female drug use 'peaked' in the 16-19 year old age range. In the British survey, marked peaks occurred for both sexes between the ages of 16 and 19. Hammersley attempted to explain these patterns:

> 'These peaks might be due to a generational effect (e.g. those aged 20-24 in 1993 use more drugs than older or younger generations) or a combination of an age effect (in general young adults use more drugs than school children) and an increase in drug prevalence over the generations (young people use more drugs than they used to).' (1994: 6)

Although there were no statistically significant differences between the socio-economic groups, members of the professional or higher managerial class were slightly less likely to use drugs, and those classed as non-working slightly more likely. However, in relation to housing type, it was found that people living in areas with many private flats and tenements were most likely to have used a wide variety of drugs. The implication of this is that urban areas have the highest levels of drug use, as this type of housing is most prevalent in the cities and larger towns. In support of this, the report showed that drug use was lowest in agricultural communities. However, when area was broken down by type of drug use, it was seen that although use of cannabis and hallucinogens and stimulants were highest in private flats and

tenements, council housing residents exhibited higher rates of use of opiates and crack, temazepam and pills. Accordingly, it may be that the private rented sector is characterized by a different type of drug user, and it is possible that given the age (16-24 year olds) and socio-economic grouping (non-working) of highest prevalence, this survey is identifying recreational drug use by students.

As questionnaire completion rates for the 12-15 year old age groups were low, prevalence figures relating to each type of drug were reported only for those aged 16 and over. Cannabis was the most commonly used of illicit substances, reported by 14% (17% of men and 10% of women) of the sample. Just over one tenth had used any drug other than cannabis, with between 2 and 5% using valium, psilocybin, LSD and amphetamines, and only 1 or 2% reporting the use of cocaine, solvents, temazepam and ecstasy. Use of heroin, crack cocaine and methadone and general injecting were reported by less than 1% of the sample.

The British crime survey had also found that cannabis was the popular drug in England and Wales (Mott and Mirrlees-Black 1993). At every age, its use was reported by more males than females. The highest prevalence (19%) was reported by the 12-29 age groups. With the exception of ecstasy, Scots between the ages of 16-24, tended to report more drug use than their English peers. However, as Hammersley (1994: 34) points out, this may have been due in part to higher non-completion levels amongst the English and Welsh and the fact that the British Crime Survey was carried out a year earlier than the Scottish version. Although no comparable self-report figures are available for Northern Ireland, it is noted that all

indicators, such as seizure of controlled drugs, persons found guilty or cautioned for drugs offences, are substantially lower in the Province. For example, with reference to the latter, in 1994 the rate of people found guilty of drugs offences in Northern Ireland was only 3 per 100 000 of the population. This can be compared to 88 in Scotland, 155 in England and 172 in Wales (Regional Trends 1996).

A further aspect of the crime surveys concerned current drug use. Employing 'within the last year' as the definition of current, it was noted that prevalence of drug use in the last 12 months was generally half or less of lifetime prevalence. Those individuals who reported using drugs within the last year were designated current users, and as with lifetime prevalence the most common groups were aged between 16 and 24, particularly men aged between 20 and 24. Thus the Crime Surveys do provide evidence to support the assertion that drug use is a behaviour adopted mainly be younger people. However, it should be noted at this stage that the surveys merely asked the respondents if they had 'ever used' any of the drugs, and if they had used any of the drugs at least once in the last 12 months. As such, they include no information on frequency of this behaviour.

Coggans et al (1989; 1991) conducted a self-report survey of 1 197 teenagers in 20 Scottish schools in the process of evaluating the provision of drugs education. The majority of the respondents were aged between 13 and 15, with some 16 year olds who had selected to remain in education. Overall, 22.7% of the sample had used illicit drugs. As with the national surveys this was related to age, with 10.7% of those aged 13 and 27.3% of those aged 16 reporting use of at least one drug. Again the

most commonly used substance was cannabis, over 15% of young people in the survey reported trying it. Hammersley (1994) compared the Scottish Crime Survey statistics with Coggans et al's findings and found that for the 13-15 year old age group, the findings from the self-report survey were about double those from the Crime survey. Hammersley deduced that this discrepancy was probably due to the method of data collection, and thus warned that home collection of such sensitive data is particularly likely to result in high incidence of underreporting.

Other studies of youthful drug use have been undertaken in more geographically restricted locales, and many of these have been reviewed by Plant and Plant (1992). Overall, such surveys tend to report that up to a fifth of young people under 16 years of age report having used some form of illicit drug, with prevalence increasing steeply between the ages of 11 and 16. For example, Bagnall's (1988, 1991a) survey of self-reported drug use amongst 13 year old pupils in Berkshire, the Highlands and Dyfed found that only 5% had used illicit drugs. This is in contrast to the 19% found in Prichard et al's (1986) study of self-reported drug use among 808 teenagers, aged 14-16, in Bournemouth and Southhampton. Moreover, Bagnall's three-area study did focus on three relatively rural areas, and other studies, concentrating solely on urban localities have revealed higher rates of prevalence. For example, Swadi (1988) surveyed 3, 333 11-16 year olds in London state schools and found that 20% had at some time used illicit drugs or solvents. Figures from a survey of 760 12-16 year olds in Lothian in 1992-93 show an even higher prevalence - 56% of young people had tried cannabis. Notably, less than half the respondents in this survey were consulted in schools, the majority being contacted through youth clubs and adolescent units.

The authors of this survey felt they had obtained a more accurate level of illicit drug use as the youth club setting is less formal than a school, and 'there was less pressure upon young people to conform to adult views and be conservative' (Fast Forward 1994: 4).

The number of pupils reportedly being offered drugs is even higher than those using such substances: Wright and Pearl (1995) found that 45% of 14-15 year olds in Wolverhampton had been offered drugs, while Measham, Newcombe and Parker (1993) found that 59% of teenagers in 8 schools in the North West of England had been offered drugs. The former study further noted that, in a similar exercise in 1969, only 5% of pupils surveyed had ever been offered drugs.

Cannabis is by far the most extensively used of substances, with glues and solvents being widely used by younger people (Plant, Peck and Samuel 1985; Grube and Morgan 1986; Prichard et al 1986; Brown and Lawton 1988, Swadi 1988). In all of these studies, only a minority of respondents, typically less than 5%, have reported using drugs such as heroin, cocaine, LSD and amphetamines. Even where the reported use of cannabis was high, as in the Fast Forward Lothian study, only 1% reported using heroin, which the authors note was unchanged from a figure obtained from a survey of young people in Lothian some 15 years previously (Plant, Peck and Samuel 1985).

However, Plant and Plant urge caution in interpreting these levels of use. In their review, they stressed the same caveat that was emphasised by Hammersley (1994)

throughout his report, namely that bias due to under-reporting is probably even greater in self-report of illicit drug use due to their illegality. Nevertheless, the same authors consider that it is the illegal nature of these substances which encourages their use among young people. They comment:

> 'Most illicit drug use coincides with or follows adolescence. Smoking and drinking have a potent appeal because of their commonplace roles as hallmarks of maturity...The very illegality of cannabis and other substances bestows upon them the special appeal of 'forbidden fruit'. (Plant and Plant 1992: 47).

Wright and Pearl (1995) found that the most popular reasons perceived for taking drugs were to feel mature and to show off and also to have fun or 'for kicks'. It is noted that the respondents in this study were not asked about their own drug taking behaviour, merely why they thought young people in general used drugs. The idea of using drugs 'for fun' was also explored by Fast Forward (1994): this study found a clear divide between attitudes to 'hard' or Class A controlled drugs such as cocaine and heroin, and 'recreational' drugs, notably cannabis. The authors even commented that the label 'recreational' carries connotations of refreshment, fun and health. Interestingly, they also found that cost was a significant factor in the choice of drugs, and explained that the reason ecstasy was not popular amongst the 12-16 year olds, despite its high profile amongst young people, was that its cost was too high.

Nevertheless there is some evidence that the majority of young people eschew the use of illicit drugs. Cooperative Wholesale Society (1991) produced a survey of attitudes of 618 9-16 year olds in England and Scotland to a variety of anti-social behaviours. Over nine tenths (91%) of the respondents classified drug taking as one of the three

worst examples of anti-social behaviour. Vandalism and drunken driving were also high on the list. In many respects this negativity parallels that exhibited by younger children towards alcohol (Jahoda and Cramond 1972; Fossey 1994).

2A.4 HARM ASSOCIATED WITH YOUTHFUL ALCOHOL, TOBACCO AND ILLICIT DRUG USE

2A.4.1 Harm associated with alcohol

The overall picture portrayed by survey evidence is that the majority of teenagers in the United Kingdom consume alcohol, but in moderation. Several researchers (e.g. Plant and Foster 1991; May 1992) have even commented on the normality of alcohol consumption among the young, and have emphasised that drinking habits amongst British teenagers have remained relatively stable over the last 10-15 years. The drinking habits of this age group are part of a more general socialisation and coming of age in a society in which drinking is considered to be an important facet of mature and sociable behaviour, and it must be stressed that the majority learn to drink without serious mishap.

> 'It seems fair to conclude overall that the kind of drinking most adolescents do when they drink is the kind of drinking most adults would recognise as 'sensible drinking.'' (Marsh, Dobbs and White 1986: 35)

Furthermore, there is growing evidence that moderate amounts of alcohol may in fact have a positive benefit to health (e.g. Marmot et al 1981; Gronbaek et al 1994; Plant 1994). However, it is also accepted that such evidence should be treated with caution, as most empirical studies have generally been carried out on small samples selected from atypical populations. Despite this positive scenario, there is reason to be concerned about the drinking habits of a minority of young people.

Sustained, heavy consumption of alcohol is associated with chronic liver disease and cirrhosis of the liver. Duffy (1992) has estimated that over 70% of chronic liver disease in men, and 35% of liver cancers are caused by alcohol. Alcohol-related mortality also incorporates alcoholic psychoses, and other cancers such as those of the mouth and throat. However, the causal role of alcohol in the latter can also be attributed to the fact that many heavy drinkers are also heavy smokers.

With regard to young people, levels of alcohol-related deaths associated with chronic disease appear to be very low. Plant and Plant (1992), reviewing levels of alcohol problems amongst British youth, reported that the annual number of such deaths is tiny, typically fewer than ten. Furthermore, it has been noted that the peak age of mortality associated with the misuse of alcohol is 70 years of age (Noble 1994).

Therefore, as many authors in this field (e.g. Plant and Plant 1992; Anderson 1995; Fossey, Loretto and Plant 1996) have commented, the overwhelming majority of alcohol-related problems experienced by young people relate neither to chronic heavy drinking nor to alcohol dependence, but to the ill effects of acute intoxication.

Anderson (1995) has summarised such harm:

- hangover symptoms (headache, sickness, diarrhoea, temporary short-term memory loss and temporarily dulled cognition)
- decreased educational achievement in the medium or long term
- arguments or fights
- other violent behaviour, some criminal behaviour or public disorder problems
- impulsive behaviour
- inappropriate behaviour
- accidents resulting in injury or death
- mood change
- accidental poisoning
- increased likelihood of partaking in other potentially harmful behaviour such as unprotected sex or drug experimentation.
- related family and/or social problems

Surveys consistently show that a high proportion of adolescent drinkers sometimes drink to intoxication. In fact such intoxication is often considered normal and desirable behaviour among teenagers (Dean 1990). The national survey of young people's drinking conducted in Great Britain by Marsh and colleagues (1986) noted that around two thirds of the sample reported having been at least a little bit drunk at least once during the past year. Incidence of being 'very drunk' increased from about one quarter of the 13 year olds to around half of the 17 year olds. A high correlation between frequency of drinking and rates of intoxication was also revealed:

> 'This certainly implies that heavier drinking among the relatively small minority of adolescents who do drink heavily is not episodic or opportunist drinking. It is an established regular habit.' (Marsh, Dobbs and White 1986: 50)

Comparisons with Northern Ireland revealed that drinkers there were more likely than their peers in Scotland, England or Wales to have consumed alcohol to

intoxication. Forty percent of Northern Irish drinkers (aged 13-17) admitted to having been 'very' drunk at least once in the past year (Craig 1989).

Survey evidence has demonstrated that most adverse consequences experienced are fairly 'low level', including effects such as hangovers and nausea. For example, Plant, Peck and Samuel (1985) reported that amongst drinkers aged 15-16, 31% of males and 26% of females had experienced hangovers. The incidence of such consequences has been shown to increase with age. For example, in their national study, Marsh and colleagues (1986) found that amongst those aged 13 in Scotland, 28% of boys and 16% of girls reported having been sick due to drinking. These proportions rose to 47% and 28% respectively amongst those aged 17 years. A high correlation between experience of consequences and alcohol consumption has also been shown (Plant, Peck and Samuel 1985). Moreover, males tend to experience more negative consequences of drinking than do females. This has been attributed to the fact that males tend also to be heavier drinkers (Plant, Peck and Samuel 1985; Marsh, Dobbs and White 1986).

In addition, these studies provided evidence that some teenagers had also experienced more serious consequences. For example, in the study conducted by Plant and colleagues in Lothian (1985), 2% of males and 1% of females reported being advised by their doctors to drink less. Six per cent of males and 3.5% of females stated that they had been worried about their own drinking. Approximately a fifth of those surveyed reported having had disagreements with their parents that they attributed to

their own drinking. This finding was corroborated by evidence from the national study (Marsh, Dobbs and White 1986).

In their recent review, Plant and Plant (1992) concluded that while few young people in Britain die from alcohol-related illnesses, it is evident that larger numbers suffer injuries or even die in alcohol-related accidents. Giesbrecht et al (1989) have cited evidence indicating that a high proportion of accidental injuries involve people who have been drinking, and many are intoxicated when they are hurt. Accidents associated with alcohol misuse include drink-driving accidents which have shown a marked decrease in recent years. Unfortunately there has not been a similar decrease in pedestrian fatalities (Fossey, Loretto and Plant 1996).

However, the behaviour associated with young people and alcohol which has tended to cause the most concern - the notorious 'moral panics' by the media (Dorn 1983; May 1992; Coggans and McKellar 1995) - is that of delinquent or deviant behaviour. The range of behaviours that have been termed delinquent include drug misuse, aggression and violence, theft, vandalism, behavioural or disciplinary problems at school or home, sexual activity and problems with the law (Anderson 1995; Coggans and McKellar 1995).

Coggans and McKellar (1995) argue that some 'delinquent' behaviours are not necessarily problematic. For example, they note that 'under-age'[1] drinking in licenses

[1]In the United Kingdom it is legal for people aged five and above to consume alcohol, provided that they do not do so in licensed premises. The legal age of alcohol purchase and consumption in licensed premises is 18. Young people may enter bars, subject to the licensee's permission, once they are 14 years of age in England, Scotland and Wales . The corresponding age in Northern Ireland is 18. People

premises is so widespread that it is only deviant with respect to the law and not to normal teenage behaviour. This viewpoint is reflected by the lack of legal enforcement. Lister Sharp (1994) conducted a review of under-age drinking and showed a steady decline since the early 1970s in the number of people under 18 years of age convicted of purchasing alcohol from licensed premises.

Nevertheless, Marsh and colleagues (1986) noted a significant minority of young people reported having come to the attention of the police as a result of their drinking. About 20% of boys in Scotland, and 10% of those in England and Wales had attracted the attention of the police after drinking. Scottish females (10%) were also more likely than their English or Welsh counterparts to have done so. Craig (1989) found that around 10% of Northern Irish drinkers reported being noticed by the police in this way.

However, the attention of the police could be attributed more to the fact that youthful intoxication is frequently associated with 'anti-social' behaviour. Marsh, Dobbs and White's evidence indicated that up to a quarter of those they surveyed had been in arguments or fights after drinking. The popular explanation for this connection has been aptly stated by Coggans and McKellar:

> 'Received wisdom holds that alcohol and violence go together, that people are more likely to be aggressive under the influence of alcohol. It is also widely accepted that young people, being less accustomed to the effects of alcohol, are less likely to control their behaviour under its influence.' (1995: 2)

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aged 16 -18 may buy beer, perry and cider (and wine in Scotland) to consume with a meal in a dining room or separate eating area in licensed premises.

Certainly many perpetrators and victims of crime are subsequently found to have been consuming alcohol prior to the criminal activity. However, as reviewed by Collins (1982), the connection between drinking and crime is frequently unclear, and the precise role of alcohol is often a matter for conjecture.

In a carefully constructed empirical experiment, Coggans et al (1994) concluded that alcohol levels per se were not associated with levels of aggression. Rather, the social context in which people drink and the degree of permission to be aggressive were more important. In another investigation into such matters, Tuck (1989) found that only a minority of young people became involved in violence, and the violence that did occur was most likely to be outside licensed premises after drinking.

A further concern about heavy drinking amongst adolescents is that it might lead to the development of chronic heavy drinking or alcohol-related problems later in life. Two British studies have followed up groups of young people for periods of seven (Ghodsian and Power 1987) and ten years (Plant, Peck and Samuel 1985; Bagnall 1991b). These studies revealed that there were only low levels of association between teenage drinking habits and later patterns of alcohol use. Nevertheless, Ghodsian and Power did interpret their results as supporting the view that teenagers who drink heavily are particularly likely to be heavy drinkers later in life. Plant, Bagnall and their co-authors did not reach this conclusion from their study. However they did suggest that teenage heavy drinkers were more likely than others to use a wider range of illicit drugs later in life.

A review by Fillmore (1988) has examined the international evidence from prospective studies of individual's drinking habits over time. She concluded that there is generally little continuity and that drinking careers change considerably with increasing age. Reviews of survey evidence (e.g. Plant and Plant 1992; May 1992; 1993c) have noted that consumption of alcohol by young males peaks between the ages of 19 and 21; the corresponding age for females is lower, at 18 years old. Thereafter, drinking patterns appear to 'mature out' . This process involves decreases both in amounts of alcohol consumed and in drinking frequency, and is particularly noticeable amongst males who tend to experience higher peak levels of consumption.

Surveys uniformly show that individuals who drink heavily are far more likely than others to smoke and to use illicit drugs. The association between drinking and smoking has already been discussed briefly in Section 2A.2.2. With reference to this association, Currie and Todd (1992: 24) were keen to point out that this affinity does not imply a causal relationship, rather that similar factors influence the establishment of both patterns of behaviour in young people. This was also seen in the degree of overlap between the factors presented in Chapter 1. Nevertheless, alcohol and tobacco are sometimes termed 'entry' drugs or drugs of initiation which lead on to experimentation with other drugs.

> 'People who use illegal drugs, marijuana especially, are fundamentally the same people who use alcohol and cigarettes - they are a little further along the same continuum. People who abstain from liquor and cigarettes are far less likely to use marijuana than people who smoke and/or drink.' Goode (1972: 35)

As was indicated in Chapter 1, the phenomenon of 'problem behaviour' has been used to describe the fact that young people who engage in one or more delinquent behaviours are more likely to engage in others as well (Jessor & Jessor 1977, Donovan and Jessor 1978; Newcomb and McGee 1989).

Jessor and Jessor (1977) found that a wide array of characteristics could be associated with problem behaviour. Although these were described as correlates of problem behaviour, it was postulated that they might also serve as predictors of problem behaviour. Jessor and colleagues propounded the view that not only are problem behaviours frequently interrelated, but they also signal a life-long disposition to move from one form to another (Jessor and Jessor 1977; Donovan and Jessor 1978).

Kandel (1982), in reviewing forty longitudinal studies of adolescent drug use, also concluded that there was a sequence of involvement, starting with the use of alcohol and cigarettes. She further noted that although this involvement follows a well-defined order, not all adolescents may continue to a later stage. The latter point has also been emphasised by Coggans and McKellar (1995). However, it is acknowledged that people who use illegal drugs frequently report having started smoking and/or drinking at an early age (e.g. Hays et al 1987).

2A.4.2 Harm associated with smoking

Tobacco is the greatest cause of premature, preventable death. The scope of tobacco-related ill health includes lung cancer, heart diseases, emphysema, chronic bronchitis, stomach ulcers and stroke. Moreover, tobacco also harms non-smokers. Many studies have concluded that environmental tobacco smoke is associated with an increased risk of lung cancer in non-smokers. Evidence also suggests that maternal smoking has an adverse effect on the unborn child. As a result, in the 1970s, both the British Royal College of Physicians and the World Health Organisation adopted unequivocally negative stances towards tobacco smoking.

Although some young people succumb to tobacco-related diseases, the vast majority of premature deaths related to tobacco result from a long and sustained smoking career. Nevertheless, some young smokers do display some negative consequences of tobacco use. For example, Bewley and Bland (1978) showed that young smokers are more likely to suffer from bronchitis and other respiratory complaints, coughs, colds and shortness of breath than their non-smoking peers. However, because tobacco does not have the associations that alcohol and illicit drugs have with criminal and antisocial behaviour, social aspects of smoking amongst young people have not received as much research attention.

Furthermore, the fact that ill effects of tobacco are generally not evident in the short term has presented a major problem for health education. As Anderson (1995: 32)

has pointed out: 'The immediate perceived benefits of social cachet, rebellion and the like seem to obscure the spectre of possible future illness and death'.

2A.4.3 Harm associated with illicit drugs

In contrast to the potential dangers of tobacco, drug-related mortality and morbidity are very much associated with the young. Firstly, most addicts are young: in 1989 the average age of female addicts was 28.3 years, and that for males 29.2 years. Similarly, most drug offenders are around the age of 25. In addition, Noble (1994) has noted that peak ages of mortality associated with the misuse of illicit drugs and volatile substances is 25 and 15 years of age respectively. Drug-related deaths can occur both to those dependent on drugs and to those making occasional 'recreational' use of drugs such as Ecstasy, LSD and other hallucinogens (Noble 1994).

Many deaths associated with volatile substance abuse are thought to occur on the occasion of first use (Noble 1994:10). Glue-sniffing first became popular among young people in the mid-1970s. Since that time, the number of different substances inhaled has increased to include the misuse of gas fuels mainly lighter fuels) aerosols and other volatile substances. Thomas, Holroyd and Goddard (1993) found a strong association between solvent use and smoking and also an association with drinking.

In 1991, the total number of deaths caused by volatile substance abuse was 122. It is most common among boys in their early to mid teens. Deaths are most likely to be associated with direct toxic effects, though long-term use may cause damage to the

central nervous system, heart and kidneys (Marjot and McLeod 1989). However, it should be borne in mind that the number of drug-related deaths in general is minute when compared to those caused by tobacco and alcohol.

Long term frequent use of almost any illicit drug carries the risk of permanent damage to physical and mental health. Moreover, those injecting drugs run the risk of abscesses, septicaemia and gangrene. Sharing equipment runs the risk of contracting HIV and hepatitis. Although, as was seen in Section 2A.3, most youthful drug use does not involve injecting substances, drug-taking behaviour is still considered delinquent because of its illegality. There is a general worry that once a young person has committed one illegal act, they will have irreversibly embarked upon a nefarious lifestyle.

> 'Young users of drugs, regardless of the frequency of their drug taking or their choice of illicit drugs, are indulging in a criminal act. The desire for or dependence on drugs may in turn beget other criminal acts such as theft, drug dealing and prostitution, to finance drug purchases.' (Anderson 1995: 22)

Certainly in the Scottish Crime Survey, drug users reported more crime than did non-users (Hammersley 1994). Surveys specifically of young drug users also showed that users were more likely to play truant and to report being involved in fighting and vandalism (Prichard et al 1986). Swadi (1989) surveyed 1,232 London school pupils aged 11-17 and found that truants were twice as likely to have used solvents or illicit drugs and three times more likely to have used substances such as LSD, cocaine and heroin.

Lastly, the advent of the HIV/AIDS 'pandemic' has aroused concern about the possible connection between licit and illicit drug use and high risk sexual behaviour. Several investigations have examined the alcohol-sex connection amongst a variety of different study groups of adolescents, teenagers and other young adults (e.g. Flanigan et al 1990; Leigh 1990; Hingson et al 1990; Parker, Harford and Rosenstock 1994). In a recent review (World Health Organisation 1994), it was concluded that most studies of young heterosexuals indicate that people who are heavy drinkers are especially likely to engage in high risk or unprotected sex. In spite of this, it has not been demonstrated that an individual's sexual behaviour on specific occasions is influenced by drinking prior to sexual contact: all that can be concluded is that risky people are generally inclined to take risks. Nevertheless, this contrasts with the fact that many young drinkers report that they are less sexually inhibited and more likely to take risks after they have consumed alcohol. It should, however, be emphasised that available evidence does not support the popular view (or misconception) that drinking or drug use *per se* promotes unsafe sex (Leigh 1990).

2A.5 Summary

This chapter has presented a review of the literature outlining patterns of alcohol, tobacco and illicit drug use in the United Kingdom. The focus has been on patterns of youthful alcohol and drug use and harm associated with these. Although it has been shown in other surveys that behaviour relating to alcohol and other drugs does appear to be different in Northern Ireland as compared to the rest of the United Kingdom, no explanations have been proposed to explain such differences. The following chapter

therefore tries to address these issues and will present a discussion of the chief social and cultural features which appear to distinguish Northern Ireland from its neighbouring countries in Great Britain.

CHAPTER 2B

DISTINGUISHING FEATURES OF NORTHERN IRELAND

As was seen in the previous chapter, surveys into alcohol, tobacco and illicit drug use amongst adults and young people have identified differences in patterns of consumption between people living in Northern Ireland and those in the rest of the United Kingdom. The purpose of this chapter is to try to account for the reasons behind some of these differences by presenting a review of the principal social and cultural features which appear to distinguish the Province from Scotland, England and Wales.

2B.1 Religion

Religion has often been proposed as an explanation for the differences in patterns of adult alcohol use between Northern Ireland and the rest of the United Kingdom (Harbison and Haire 1982; Bruce and Alderdice 1993). In Northern Ireland, the term 'religion' has two connotations, being used as much to refer to denominational affiliation as to degree of religious belief or religiosity. This section will consider both these aspects, commencing with a discussion of religiosity.

2B.1.2 Religiosity

There is general agreement among observers of the Northern Irish scene that: 'above all else, Ulster has been a religious region' (Akenson 1973: 25). Comparison of figures from recent Social Attitude Surveys (Bruce and Alderdice 1993) certainly suggest that organised religion is more popular in the Province: 88% of the Northern Irish sample regarded themselves as 'belonging to' a Christian denomination,

compared to 56% of the British sample. In all regions of the United Kingdom, the overwhelming majority of Christians are Roman Catholic, Episcopalians (Church of Ireland, Church of England, Episcopalian churches of Wales and Scotland) or mainstream non-conformists (Presbyterian, Methodist or Baptist). However, Bruce and Alderdice (1993) noted that distribution across the denominations differed markedly between Northern Ireland and Great Britain. The patterns of denominational affiliation are elaborated by Table 2B.I below.

Table 2B.I: Patterns of denominational affiliation in Northern Ireland and Great Britain (1991)

		N. Ireland (%)	Great Britain (%)
Roman Catholic		35	10
Episcopalian		19	36
Non-conformist		35	11
Missing/other		12	44

Source: Bruce and Alderdice (1993)

The proportion of Northern Irish respondents claiming no religious affiliation was 8%. Interestingly, this was lower than in either of the two previous surveys (conducted in 1989 and 1990), but was still much higher than the 1960s and 1970s (Rose 1971, Moxon-Browne 1983). Nevertheless, compared to Britain it can clearly be seen that substantially larger proportion of the adult population claim to be affiliated to a Christian denomination. This might indicate a higher proportion of those in Britain adhere to other religions. However, other surveys, e.g. Brierley (1991), show that no more than 2% of Britons follow non-Christian religions.

Data from these surveys also show that people in Northern Ireland are not only far more likely than people in Britain to belong to a religious organisation, they are also more likely to attend church (Bruce and Alderdice 1993: 6). Details of the differences in patterns of church attendance are provided by Table 2B.II below.

Table 2B.II: Patterns of church attendance

		N. Ireland (%)	Great Britain (%)
Frequent		58	15
Regular		10	7
Rare		32	78

Adapted from: Bruce and Alderdice (1993)

Thus it can be seen that frequent church attendance is commonplace, even normative in Northern Ireland. This support is seen particularly in the Roman Catholic church, where 84% of its members in Northern Ireland report attending regularly. Rose (1976) has noted that if religiosity is measured by church attendance then 'Northern Ireland is probably the most Christian society in the Western world except for the Republic of Ireland.' Furthermore, it has been shown that while frequent churchgoing is much more common in Britain among the old than the young, this is not the case for Northern Ireland.

However, it might be argued that church attendance is not a sufficient measure of religiosity, that there exists a great deal of residual religiosity outside the churches.

Showing appreciation of this criticism, the Social Attitudes Surveys also asked people to describe their own sense of religiosity on a scale ranging from 'extremely religious' to 'extremely non-religious'. Almost two thirds of the Northern Irish sample gave a positive response, compared to only 18% of the British sample. Moreover, further analysis of these data revealed a strong connection between regularly attending church, describing oneself as religious and believing in God (Bruce and Alderdice 1993).

An in-depth examination of the beliefs of those attending Protestant churches show that they also varied between Northern Ireland and Great Britain - these contrasts being described as 'stark' (Bruce and Alderdice 1993). For example, more than 25% of each Protestant Church group in Northern Ireland were classed as 'biblical literalists', who believe that the Bible is the literal word of God, correct in every detail. In contrast, this position was extremely rare in Britain, being largely confined to Baptists and Salvationists and Pentecostalists. Much more common in Britain was the 'biblical modernist' view which regards the bible as 'an ancient book of fables, legends, history and moral teachings recorded by man'[1].

To test a further aspect of the social implications of religion, the Social Attitudes Survey asked about the origins of morality - whether God's laws should be the source of right and wrong. Conservative Protestants (the literalists) were more likely than either Roman Catholics or other (mainstream) Protestants to agree with this. Eighty-eight per cent of the Protestant literalists agreed with this religious prescription,

[1]This was the actual definition employed in the survey questionnaire (Bruce and Alderdice 1993: 9).

compared to just under two thirds of each of the other groups. However, for all three groups agreement was much stronger than in Great Britain, where 38% of conservative Protestants, 23% of Catholics and only 17% of mainstream Protestants subscribed to this view.

Rose (1971: 248) has suggested that: 'religion not only provides individuals with a way to orient themselves to another world, it can also influence their worldly outlooks'. It follows that one aspect of personal behaviour that might be expected to be associated with piety is 'temperance' or abstinence from the use of alcohol and tobacco. Certainly there has been an historical tradition of such an association (Pittman and Snyder 1962; O'Connor 1978). Bruce and Alderdice (1993: 12) have even commented that: 'Over the past century, evangelical Protestants have made abstinence almost an article of faith.' Moreover, this has been mirrored by the existence of a Roman Catholic temperance movement - the Total Abstinence Pioneer movement.

Figures comparing non-drinkers and non-smokers between Northern Ireland and Britain were, once again, obtained from the British and Northern Irish Social Attitudes Surveys (Bruce and Alderdice 1993; Jowell, Brook and Taylor 1991). Table 2B.III presents a summary of these comparisons.

Table 2B.III: Religion and Abstinence

	Roman Catholic (%)		Mainstream Protestant (%)		Conservative Protestant (%)	
	NI	GB	NI	GB	NI	GB
Non-drinking	30	8	31	8	50	8
Non-smoking	60	24	66	34	63	33

Adapted from: Bruce and Alderdice 1993 and Jowell, Brook and Taylor 1991

As can be seen from the figures in Table 2B.III, all those affiliated to churches in Northern Ireland were less likely than their British counterparts to smoke and drink. The difference was especially noticeable for conservative Protestants, half of whom reported not drinking. As these rates of abstinence, for the Northern Irish only, are notably higher than those for the population of the Province as a whole, it may be concluded that religion does have an effect in abstinence rates. However, the figures in Britain are very similar to those quoted in national surveys[1]. It was also noted that the number of 'evangelical' Protestants who claim a 'born again' experience who smoke or drink is even fewer (only 19% drink and 22% smoke).

The figures for non-smoking showed some surprising differences with Great Britain: between 60% and two-thirds of the Northern Irish people reported that they did not smoke, compared to between a quarter and a third of British people. This means that a very high proportion of people in Britain who are affiliated to a Christian religion

[1] See Chapter 2A, Section 2A.1 for details.

smoke, as these figures are much higher than the national rates of prevalence quoted in Chapter 2A, Section 2A.2. It is difficult to account for such findings, other than to propose the (unlikely) scenario that being religious in Great Britain pre-disposes one to smoking (or vice versa)[1].

Thus, it may be seen that, not only are the people of Northern Ireland more religious, both in terms of church attendance and in their religious beliefs, but that such religiosity is linked to drinking and smoking behaviour within the Province. It has also been shown that although a higher proportion of Roman Catholics attend church frequently, they are less likely to believe in a literal translation of the Christian doctrine and are also more likely to drink and smoke. It might thus be concluded that it is actual religious beliefs which affect abstinence. However, this explanation is somewhat simplistic and is interwoven with a variety of social and economic factors which also differ between the two communities in Northern Ireland. Together with exploring these differences, a discussion of the extent of division between Protestants and Catholics in the Province will now be outlined.

Any examination of Northern Ireland cannot fail to note that an important feature distinguishing this country from the rest of the United Kingdom is the sectarian divisions between the members of the Protestant and Roman Catholic Churches. According to many commentators, marked differences between Protestants and Catholics are peculiar to Northern Ireland, at least in the late twentieth century (Cairns 1991). One of the principal manifestations of such differences can be seen in

[1]However, the figures in Section 2A.2 are GHS figures; Social Attitude Survey figures *are* actually higher.

the importance of religious affiliation to social and national identity in the Province. This is underpinned by the two inter-related factors - the degree of social closure and the segregated education system. Each of these factors will now be considered in turn.

2B.1.2 Religious affiliation and social closure

In the 1989 and 1991 Northern Irish Social Attitudes surveys, further questions relating to the religious beliefs of parents, spouses and neighbours allowed an examination of the extent to which an individual's religious preferences form part of a community of views.

The first major point of note is that endogamy is largely preserved in Northern Ireland. Figures from 1989 (Gallagher and Dunn 1991) show that only 7% of Catholics and 3% of Protestants were offspring of mixed marriages; and of those living as married, only 5% of Catholics and 3% of Protestants were themselves in mixed relationships. This appeared to be reduced somewhat by 1991, when 77% of people in Northern Ireland reported that their spouse was of the same religion. Nevertheless, it was still notably higher than the 55% of the British sample. The situation in the North of Ireland is even in contrast with the rest of that island. It has been noted that much more intermarriage takes place in the Republic of Ireland where the political implications of inter-denominational alliances are unimportant (Gallagher and Dunn 1991). A section further on in this review is devoted to the current violence or 'the troubles' in Northern Ireland, but it is worth noting here that

endogamy was commonplace in Northern Ireland even before the present conflict (i.e. since the late 1960s). Harris (1972) writing about intermarriage in rural areas before the troubles noted how intermarriage bridged no gaps in that the couple were usually married in the wife's church and the husband was expected to drop all formal and political contacts connected with his own faith.

Social closure also manifests itself in the degree of religious segregation in housing in Northern Ireland. Particularly in Belfast and Derry (or Londonderry) the historical patterns of working class residential segregation increased during the 1970s and 1980s following periods of conflict and rioting (Boal 1982; Darby 1986).

> 'In 1989 the Berlin wall was demolished; but the walls dividing Protestant and Catholic working class districts of Belfast, rather incongruously known as the 'Peace Line', remained solidly intact.' (Gallagher and Dunn 1991: 13)

Empirical evidence is again provided by the Social Attitudes Survey: in 1989 62% of Catholics and 67% of Protestants interviewed said that all or most of their neighbours were the same religion as themselves; and 63% of Catholics and 72% of Protestants believed that all or most of their friends were co-religionists. It was found that one of the least segregated areas of social contact was the workplace. However, even here 44% of Catholics and 42% of Protestants said that all or most of their workmates were the same religion as themselves (Osborne 1991). Moreover, a majority of both denominations think that employers are more likely to give jobs to people who share their denominational affiliation. Despite the introduction of the Fair Employment (Northern Ireland) Act in 1989 which required all employers with 25 or more

employees[1] to monitor their religious affiliation and submit an annual return to the Fair Employment Commission, the proportion who believed that employers would favour their own kind was shown to increase between the 1989 and 1991 surveys. It is noted that by having monitoring at its centre this Act is in advance of equal opportunity policy in the United Kingdom. Larger employers and public sector organisations are also required to monitor the religion of job applicants.

2B.1.3 Religious affiliation and Education

Given the low degree of mixed marriages and the high degree of residential and social segregation, it is not surprising that segregated education is extremely widespread in Northern Ireland (Akenson 1973; Darby 1976). It has even been noted that segregation is more intense in schools than in housing (Poole 1982). It was only in 1981 that the first planned integrated secondary school, Lagan College, opened. This has since been joined by another two secondary schools and ten primary schools. In spite of this, these schools together have an enrolment of around only 2% of the total pupil population of Northern Ireland. Cairns (1987) has noted the importance of school as a socialisation agent in any society. In this respect, there may be 'a hidden political agenda' in schools, i.e. the conscious and unconscious assumptions and allegiances which can be transmitted through teaching, particularly of art, music and history (Malone 1973). For example, virtually no Protestants are taught Irish language as part of their school education. Sport is also considered to be one of the many forms of social behaviour which are divided along denominational

[1]This figure was reduced to 10 in 1992.

lines. A report by Darby et al (1977) revealed that no Protestant school played Gaelic games (e.g. Gaelic football and camogie) while no Catholic school played cricket and few played rugby or hockey. Moreover this report showed that teachers very rarely visited each other's schools and so there was a degree of mutual suspicion between the two systems. Darby (1976) argued that the cumulative effect of all these differences may transmit different cultural heritages to Catholic and Protestant children.

Empirical evidence to support this assertion was provided by a study which investigated children's abilities to categorise first names on a denominational basis and revealed that young Protestant children were no more familiar with Catholic first names than they were with 'foreign' first names (Cairns 1980). However it was noted that the city where these data were gathered was one where segregation was fairly complete and sectarian violence common. As a result, Cairns admitted that 'for these reasons it is perhaps not surprising that intergroup contact would appear to be minimal; at least in this age group.' (Cairns 1987: 136).

Therefore it has been suggested that segregation in Northern Irish schools does not simply reflect the division in other walks of life but rather magnifies it. Furthermore, the 'dual' educational system has come to be seen by many as, if not the cause of division in Northern Irish society, at least a major perpetuating factor (Akenson 1973; Cairns 1987).

2B.1.4 Religious affiliation and social identity

Several authors have noted that the division between Catholics and Protestants in Northern Ireland extends beyond purely religious differences to pervade many aspects of life (e.g. Trew 1983) She contends:

> 'Descriptions of life in Northern Ireland inevitably return to the sectarian division within the region because as Akenson (1973) has suggested, 'religion is the bedrock reality upon which the political, social and constitutional structure of Northern Ireland rests'' (1983: 110).

Certainly the division centred around religion has an overriding impact on social, national and political identities amongst those living in Northern Ireland. Tajfel's (1981) socio-psychological theory of inter-group conflict suggests that individuals actually strive to develop a social identity, based on the membership of certain groups, which eventually becomes an important aspect of the individual's self-concept. Thus, we develop a social identity by seeing ourselves in some categories, but not others. As Cairns (1987) points out, such processes do not necessarily lead to inter-group conflict. However, it is more likely in the Northern Irish scenario where the two groups are mutually exclusive.

Although only 10% of Catholics and 20% of Protestants in 1989 and 1991 admit to any personal prejudice against people of a different denomination, over 80% of each group say that religion will always make a difference to the way people feel about each other in Northern Ireland (Gallagher 1993). This sentiment is enforced by

evidence from a variety empirical studies amongst adults and children. One study found that each group had fairly derogatory opinions of the other:

> 'Protestants contrast their industriousness, cleanliness, loyalty to the state and freedom of religious expression with Catholic laziness, scruffiness, treachery, clannishness and priest domination. Catholics contrast Protestant bigotry, narrow-mindedness, discrimination and money-centredness with their own tolerance, openness and interest in culture' (Donnan and MacFarlane 1986: 386)

Moreover, as Cairns (1980) asserted, people in Northern Ireland claim to be able to tell whether a person is Catholic or Protestant, just by looking at their face. In order to test this claim, Stringer (1984) produced a set of 'stereotyped faces' which were identified from a large set as being 'very Protestant' or 'very Catholic'. Stringer and Cairns (1983) used this set in an experiment with 14-15 year olds. They were shown the faces one at a time and asked to rate them in terms of nine bipolar adjectives, e.g. good/bad. The adjectives were then used to produce three main scores representing a physical potency factor, a social potency factor and a general evaluation factor. It was found that the Protestant children rated the Protestant faces more highly on each of the three scales; the Catholics also rated the Catholic faces lower on the social and physical potency scales, but equally to Protestants on the general scale.

In another exercise, Cairns and Mercer (1984) asked nearly 1000 16-17 year olds to describe themselves by choosing between a series of 18 pairs of bi-polar adjectives. Only 3% failed to choose either the term Catholic or the term Protestant. When the subjects were asked to rank order the adjectives, Catholics tended to rank this third, behind age and gender, while Protestants ranked social identity fifth, behind age,

gender social class and religiosity.. Around 5% of respondents actually ranked their denominational social identity in first place.

Other work has also shown that even younger children may well be aware of the existence of two social categories. Jahoda and Harrison (1975) investigated this by presenting their six and nine year old boys with a set of 16 geometric shapes of the same size which were used to make up four different shapes (circle, square, semi-circle and trapezium) with each being a different colour (red, orange, blue, green). It was found that nearly half of the older Belfast children spontaneously mentioned the politico-religious symbolism of the colours as they carried out the task.

Overall conclusions from the available evidence show that Catholic children are more likely to view their social identity as important and the salience of social identity increases with age and among those children living in areas where intergroup conflict is particularly overt.

> 'My guess is that anyone who lives in Northern Ireland would probably agree that while one's social identity may not always be to the forefront of one's consciousness it is nevertheless never far away.' (Cairns 1987: 116)

An inter-related concept is that of national identity. Moxon-Browne (1991) claims that national identity assumes an importance in Northern Ireland not evident elsewhere in the United Kingdom. It has been shown that national identity is almost completely divided along denominational lines. Two-thirds of Protestants, but only 10% of Catholics describe themselves as 'British', whereas 60% of Catholics, but only 2% of Protestants would describe themselves as 'Irish' (Gallagher 1993).

Although the 'Northern Irish' label attracts some respondents from each community, it was noted that their number has remained largely un-changed over a number of years: about one-quarter of Protestants and one-seventh of Catholics opt for this identity.

However, Moxon-Browne (1991: 23) feels that: '....national identity in Northern Ireland is not simply a reflection of diverse ethnicities based on successive waves of immigration. It is rooted in the colonisation of Ulster by Protestants; and, consequently, by opposing views of the legitimacy of the state and its boundaries.' Accordingly, he considers that the issue of divided national identity lies at the heart of the present political conflict in the Province:

> 'Although the lines of division are often considered to be religious in character, religion is at best seen as a badge of difference - the visible symbol of deeper and less tangible attachments to national roots. These roots derive from historical events whose interpretation is itself a subject of conflict' (Moxon-Browne 1991: 23)

There is certainly a religious basis to political partisanship. As can be seen from the figures presented in Table 2B.IV below, only the Alliance Party attracts a significant degree of cross-community support.

Table 2B.IV: Voting patterns in Northern Ireland in 1991

		Catholic (%)	Protestant (%)
Official Unionist		-	51
Democratic unionist		-	14
Alliance		9	9
SDLP		49	1
Sinn Fein		10	-
Workers' Party		2	1
Other		3	3
None		16	13
No response/don't know		12	7

Source: Gallagher (1993:36)

It has been suggested that it is the conflict in Northern Ireland which gives religious identity there a social and political significance that it no longer enjoys in Britain. Although the causes of the conflict are far from easy to understand they cannot be disentangled from religious affiliation, and a discussion of the differences in Northern Ireland would not be complete without some examination of this issue.

2B.2 Violence

Although it may appear that the problems of violence in Northern Ireland emerged suddenly from nowhere, in reality the conflict has a much longer history, with some commentators (e.g. Darby 1983) arguing that it dates back at least 300 years. Nevertheless, the associations uppermost in most people's minds between Northern Ireland and violence focuses on the civil disturbances, or the 'troubles' as they are

colloquially known, which have dominated the Province's recent history since the end of the 1960s.

Explanations as to the cause of this violence proliferate, but a most thorough treatment of the various viewpoints has been provided by McGarry and O'Leary (1995). These authors have employed two main classes of explanation to account for the nature and patterns of violence in Northern Ireland.

(i) External/exogenous - which situate Northern Ireland in the context of British-Irish state relations.

> 'They explain the genesis of the conflict, the patterns of violence, and the political stalemate primarily as the outcome, or by-product, of external institutions and agents. They normally include the argument that 'solving' the conflict requires external or international transformations.' (McGarry and O'Leary 1995: 5)

(ii) Internal/endogenous - which treat Northern Ireland as a separate unit of analysis, a distinct political, economic and cultural system which can be examined independently of external influences.

> 'Such explanations may recognise that 'solving' or resolving the conflict - when that is considered possible - may require exogenous instruments or external intervention, but their proponents insist that the causes of conflict, paramilitary violence and political stalemate, are primarily accounted for by Northern Ireland's internal religions, cultures, and economy.' (McGarry and O'Leary 1995: 5-6)

Interestingly, exogenous explanations are favoured by both nationalists and unionists; whereas endogenous accounts are preferred by British state officials, British

politicians and British public opinion. It is noted that the latter may be a 'convenient' position for those outside the Province to adopt.

Nationalism has been defined as the doctrine that the nation should be collectively and freely institutionally expressed and ruled by its co-nationals. It also stipulates that the nation must choose how it rules itself (McGarry and O'Leary 1995: 13-14). On the other hand unionism refers to the doctrine that the United Kingdom should be preserved, and Northern Ireland must remain as part of the union between Great Britain and Northern Ireland.

According to Moxon-Browne (1979) most Protestants wish to uphold the current political status of Northern Ireland while most Catholics aspire to severing the link with Great Britain in favour of a reunified Ireland. The labels 'Catholic' and 'Nationalist' and 'Protestant' and 'Unionist' respectively are often used interchangeably. According to McGarry and O'Leary this makes sense as 'Roman Catholicism has been a critical component of Irish ethnic nationalism because it was and is the clearest badge of native Irish identity, just as Protestantism was and is the clearest badge of the conquering settlers and their offspring.' (1995: 16). It follows that any explanation of the current violence has its roots in the historical formation and development of Northern Ireland.

2B. 2.1 Exogenous explanations

Nationalist accounts

After centuries of conflict between Britain and Ireland, Ireland was divided in 1921. Northern Ireland remained an integral part of the United Kingdom with a Protestant majority, while the rest of the island eventually gained political independence as the Republic of Ireland with a predominantly Catholic population. However, nationalists argue that the border created in 1920 is artificial, marking no natural geographic frontiers, and no definite regional, cultural or ethnographic boundaries. Rather, it is noted that the border arbitrarily divided Ireland and the historic Province of Ulster, and excludes the most northerly county, that of Donegal.

Violence followed the 1920 arrangements. This was fuelled by the fact that, throughout the century, Unionists presided over a regime of systematic discrimination in which nationalists were deprived of the means of social and economic development and experienced high levels of emigration and unemployment. Peaceful campaigns for civil rights in the 1960s were again met with violence and repression by the Unionists, and this led to the political violence after 1969. The Irish Republican Army (IRA - the main nationalist paramilitary organisation) has been at the forefront of the nationalist violence. Their belief, as civil militants, is that the Irish right to national self-determination can be sought through force of arms, not least because Irish national territory is presently occupied

by an imperial power. They take the position that all republican violence is reactive, defensive and legitimate, due to the presence of the British state.

Since 1972 successive British governments have (fitfully) endeavoured to reform Northern Ireland and to promote power-sharing. They have recognised, albeit belatedly and grudgingly, the importance of the national identity of the Northern Ireland minority, in attempted political settlements with an 'Irish dimension' and frameworks for a settlement - notably in the Anglo-Irish agreement of 1985 and the Downing Street Declaration of 1993[1]. (McGarry and O'Leary 1995: 47)

Although the IRA announced a complete cessation of military operations in August 1994 which heralded a hope for a return to peace, this does not seem to have been fulfilled. The so-called 'peace process' has unproductively rumbled on, and in May 1996, the IRA re-commenced its campaign of violence.

Unionist accounts

Unionists insist that they differ from other people in Ireland in religion in that they are not Catholic, and that their ethnic origin is in England and Scotland, as opposed to Ireland.. They also believe that they are more aligned with Britain in terms of economic interests and sense of national identity. This identity is thought to comprise three distinct aspects (Todd 1988):

[1] This refers to the signing of the Joint Declaration for Peace by the British prime minister and the Irish premier in December 1993.

- Cultural - which includes the characteristics shared in common with Great Britain - the English language, parts of English common law and the traditions of parliamentary government.

- State centred - this aspect focuses on the benefits and claims enjoyed by the people of Northern Ireland as citizens within British political institutions. Accordingly, it includes identification with the Crown, Westminster, the National Health Service, British media, the British legal system, economy, educational and examination systems, road systems etc.

- 'Supremist' - this attitudinal position is based on a profound contempt for Irish nationalism and Catholicism.

The conventional unionist explanation for the conflict has been the nationalist irredentism of the Irish state. In their view, republican violence is motivated by the cult and culture of Sinn Fein (the main nationalist political party) taught in Catholic schools on both sides of the border. This culture inhibits northern Catholics from giving their allegiance to the British state. Although still dominant in unionist discourse, this explanation has been challenged by those who maintain that another fundamental cause is an external 'absence': 'the absence of a British commitment to make Northern Ireland ineffably British.' (McGarry and O'Leary 1995: 95-6). The IRA is thereby persuaded that they can win. Since its inception, Northern Ireland's status within the union has been conditional: it is only part of the United Kingdom 'as long as their local parliaments or peoples so desire.' In contrast this is not the case

with England, Scotland or Wales. Furthermore, in the Downing Street declaration, they were defined as part of the people of Ireland.

2B.2.2 Endogenous explanations

Religion

> 'The Northern Ireland conflict is a religious conflict. Economic and social differences are also crucial, but it was the fact that the competing populations in Ireland adhered and still adhere to competing religious traditions which has given the conflict its enduring and intractable quality.' (Bruce 1986: 249)

This is perhaps the most popularly-held explanation for the violence. Most adverse commentary centres on the churches' role in maintaining and reinforcing social division through their attitudes to endogamy and segregated education. In addition to creating a sectarian environment, the churches are blamed for selectively condemning bombings and other atrocities. In particular, Protestant churches are criticised for condemning republican violence and condoning the excesses of the security forces, while the Catholic church is criticised for alleged ambivalence towards republicanism and for condemning the security forces.

However, McGarry and O'Leary (1995: 172) do not agree with the premise that religion is the root of conflict: they argue that although there is no doubt that the members of the two communities are religiously differentiated, they are also divided by broader cultural differences, national allegiances, histories of antagonistic encounters, and marked differences in economic and political power. Moreover,

these authors note the spatial and per capita distribution of violence is highly concentrated on urban sites, and there is evidence that church attendance is low in such areas. For example, one study of the Shankill, where Protestant paramilitaries and Democratic Unionist Party have significant support, indicated that Protestant church attendance had dropped to about 15% in the late 1970s. However, it is recognised that this information is dated. Nevertheless, it is further noted that most of the main political parties are not religiously labelled, even if their support bases are religiously differentiated. They are also mostly concerned with addressing secular issues.

Cultural interpretations

Popular atavistic explanations are reflected in the British perception of the Northern Irish as engaged in an ancestral rather than a contemporary conflict. This regression is reinforced by the media who often refer to 'tribalism' when describing the conflict. It can be very difficult to separate such a viewpoint from the religious explanation described above.

> '...many understand the religious labels to include cultural Catholics and Protestants, i.e. non-believers who are identified with belonging to, or originating from one community or the other - even if they are not theologically disposed. In this case the religious labels designate ethnic descent groups, in which membership is defined by religious background (and not belief). (McGarry and O'Leary 1995: 218)

Smith (1993) has defined an ethnic community as 'a named human population, with a myth of common ancestry, shared memories, and cultural elements; a link with a

historic territory or homeland; and a measure of solidarity.' Some indication was given in the discussion of segregation within the education system of how separate each of the two communities views itself. For example it was shown that participation in and consumption of sport and leisure may divide the communities more than integrate them. A further aspect of social differences manifests itself in a very every-day way. The two communities tend to read different newspapers, Roman Catholics favouring the Irish News, which presents a northern nationalist viewpoint, with more Protestants reading the unionist-oriented News Letter.

The Irish language has become symbolic in the conflict. Sinn Fein shows extreme enthusiasm for the language, but regards it mainly as a badge of difference. Despite these differences, McGarry and O'Leary (1995) argue that these cultural traits cannot be seen as purely internal to Northern Ireland, and that they exist elsewhere without generating such antagonism, violence or stalemate. Moreover, Cairns (1980) has noted that in no other society is intergroup hostility so marked in the absence of obvious perceptual features distinguishing the groups.

Direct economic explanations

According to Smith and Chambers (1991), the current violence erupted because of inequality rather than nationalism or religiosity. They have argued that the conflict's roots were forged in the initial plantation of Ulster, which extracted the best land for Protestants and relegated the Catholics to less fertile hilly land or to jobs as farm labourers.

Today, the most striking difference can be found in the rates of unemployment, with Catholic men being about 2.5 times more likely to be unemployed than Protestant men. Even among those in work, Protestant men tend to be over-represented in non-manual occupations, especially higher-paying professional and management categories; whereas Catholic men are over-represented in manual occupations, especially in the low-paying unskilled manual category (Regional Trends 1996).

While appreciating this inequality, McGarry and O'Leary feel that this is not sufficient to explain the violence.

> 'It is not difficult to see that it is the denial of the national identity of the minority community and the denial of its institutional recognition and equality, and not just the denial of individual rights, which fuels conflict'. (1995: 286)

They cite as evidence the fact that the vast majority of Catholics support parties whose raison d'être is nationalism, rather than individual equality within the United Kingdom. They also note that the paramilitary campaign of violence has been waged over the issue of the border and Irish national self-determination, and not over fair employment. A further problem with the deprivation argument is that the current conflict in Northern Ireland broke out during a period of relative economic growth, falling unemployment, and increasing prosperity. Thus a political trigger is suggested.

For whatever cause, there have been concerns that the violence may have affected people in Northern Ireland, particularly its young population. For example, a study

(Cairns, Hunter and Herring, 1978) compared children aged 5-6 from a virtually trouble-free area of Northern Ireland to those outside the Province. When responses to ambiguous picture stimuli were compared, the Northern Irish children made overwhelmingly more reference to terrorist bombs and explosions in explaining the pictures. However, various pieces of research (e.g. McCauley and Troy 1983; Fee 1980, 1983) came to the conclusion that there is no widespread disturbance of children due to the violence. In a survey of leisure habits of 11-12 year olds in West Belfast, Whyte concluded that 'It would seem that in this area, life goes on, probably in a 'non-reactive' kind of way, for the vast majority of the children, with 'the Troubles' not really impinging on their daily leisure activities' (1980: 102).

Cairns (1987) feels that the majority of children who have suffered psychologically because of the violence have experienced this trauma for a relatively intense but short period of time and have appeared to recover quite quickly. Nevertheless, concern has been expressed that the particular type of conflict occurring in Northern Ireland would generate an 'epidemic' of anti-social and delinquent behaviour in children and adolescents. For example, in 1973, Lyons anticipated that 'when peace returns to Northern Ireland, there will be a continuing epidemic of violence and anti-social behaviour amongst teenagers'.

2B.3 Moral Development

Thus, one fear commonly expressed by researchers in the early 1970s was that young people in Northern Ireland may have been socialised into accepting a background of

violence as normal. One of the main concerns about the conflict is that young people in Northern Ireland have been forced to live in an apparently amoral society. For example, the Report of the Working Party from the Irish Council of Churches/Roman Catholic Church Joint Group on Social questions (1976) claimed an increase in vandalism and theft, a 'disastrous' increase in excessive drinking and 'disturbing' signs of breakdown in standards of sexual morality. As Cairns commented:

> 'Certainly in the pre-troubles era in Northern Ireland the two (spiritual and moral development) had gone hand in hand in what was avowedly a uniquely Christian society. The churches, of all hues, had been the guardians of the people's moral standards. Now it appeared that the challenge to their moral teaching was a direct challenge to their standing in the community.' (1987: 72).

However, empirical work subsequently conducted to measure such issues has concluded that, if anything, young people in Northern Ireland have a more highly developed moral sense than their counterparts in Britain. Greer (1985) measured moral attitudes directly, by asking the subjects to reply on a four point scale ranging from 'always wrong' to 'never wrong' on a series of issues. These responses were compared to a similar group in England (Wright and Cox 1971). For every item, more Northern Irish subjects endorsed the 'always wrong' category. The most striking example was in the area of sexual morality where 26% of the Northern Irish males, compared to 10.3% of British males thought that 'pre-marital sexual intercourse' was 'always wrong'. The difference for females was even more marked - 51.2% versus 14.6%.

Moreover there appear to be low rates of civil crime in Northern Ireland:

> 'The most likely syndrome which accounts for this peculiarly Northern Ireland phenomenon is the strength of the churches' influence and the fundamentalist religious values espoused by both Roman Catholics and Protestants....This syndrome entails a degree of respect for, or at least compliance with, the authority of elders uncommon in the British Isles.' (Heskin 1980: 20).

While not disagreeing with this viewpoint, it should however be borne in mind that low rates of civil crime could also be due to police effort being directed against the sectarian violence.

2B.4 Conservatism

Studies of the psychology of religion have found that religiosity is associated with social stability, conservatism and authoritarianism (Brown 1987: 142). With reference to Northern Ireland, Hickey (1984: 16) considers that the importance of religion there has hindered the 'modernising' process and has delayed 'the development of a society which can be regarded as akin to the remainder of the United Kingdom'.

In addition to religion, in Northern Ireland the family is still regarded as one of the most powerful social institutions (McShane and Pinkerton 1986). It is impossible to move far from the parental home and its influences without leaving Northern Ireland, and more young adults than in Britain continue to live in the parental home (Sneddon and Kremer 1991). Accordingly there is a widely held belief that the influences of religion and family combine to create a more conservative moral climate than in the

rest of the United Kingdom. An example to illustrate this conservatism can be obtained from the 1989 social attitudes survey data. Eighty-two percent of those questioned in Northern Ireland thought that homosexuality was 'always' or 'mostly' wrong, compared to 69% of those questioned in Britain.

This conservatism is rooted in, and reinforced by, the influence of the churches which advocate a traditional role for women as wives and mothers within the family (Montgomery and Davies 1991). In 1989 some 10% fewer women than in Britain were classed as economically active. Relatively few mothers of children under five are in employment in Britain or Northern Ireland (Cohen 1988; Regional Trends 1996), but in Northern Ireland the rates do not increase to the same extent as Britain when the children are of school age. Northern Ireland is also more traditional in its attitudes towards issues such as divorce and abortion. Again in the 1989 surveys, it was seen that attitudes to abortion is all circumstances were more negative in Northern Ireland, and that differences were greatest when personal preference was involved. The reform of the divorce law in the Province was vehemently opposed by both the Protestant and Catholic Churches, and irreconcilability as grounds for divorce was finally recognised in 1978, ten years after England and Wales.

Therefore it is not improbable that attitudes to alcohol and use of drugs may also be influenced by this conservative stance. Cairns (1987) also noted this conservatism in teenagers, noting that young people aged 17 years old, displayed more conservatism than did similar age groups not living in Northern Ireland. It has been suggested that: 'one of the major effects of living with the troubles has been to direct the young

away from rebellion against the adult world, characteristic of their age group, towards conformity with parents' (Jenvey 1972: 124)

2B.5 Summary

Evidence has been forwarded which suggests that the people of Northern Ireland are more religious than their British counterparts. Various influences have been thought to combine with this religiosity to create a more conservative moral climate in the Province. While this may well account for the higher proportion of people in Northern Ireland who abstain from the use of alcohol and other drugs, it does not help to explain the polarised, or ambivalent, drinking patterns which are characteristic of the region. Moreover, as has been emphasised throughout this section, Northern Ireland is divided into two distinct communities, differentiated along religious lines. This social division provides yet another complicating factor in trying to investigate issues of use and misuse of alcohol and other drugs.

O'Connor (1978) concluded from her research of young people in the Republic of Ireland, that polarised drinking patterns may be associated with more problematic drinking as there are no established norms for moderate drinking, and amongst those who do drink, heavier drinking is the accepted behaviour. Although there has been some suggestion that the violence in Northern Ireland may lead to young people in particular exhibiting various forms of deviancy, evidence has been forwarded which suggests that the conflict has not had a deleterious effect on the moral development of the Province's youth. Thus, it may be that O'Connor's proposed reason can be

employed to explain the patterns of drinking amongst both adults and young people in Northern Ireland. The remainder of this thesis will focus on a study conducted to try to assess and account for the extent of social and cultural differences between youthful use of alcohol, tobacco and illicit drugs in Northern Ireland and in Scotland.

CHAPTER 3

AIMS AND METHODOLOGY

There has been relatively little social and behavioural research into the regional differences in patterns of use of alcohol, tobacco and illicit drugs amongst young people in the United Kingdom, despite the differences shown by a limited array of survey data. The discussion presented in the preceding chapters has revealed that these differences appear to be particularly marked between Northern Ireland and Scotland, England and Wales.

It was thus decided to undertake a cross-cultural study which would focus on the development of drinking and other drug use habits amongst secondary school children in Northern Ireland and in Scotland[1].

3.1 Aims

This study was designed to achieve the following objectives:

1. To examine the self-reported levels of use and misuse of alcohol, tobacco and illicit drugs amongst adolescents aged 11-12 and 14-16 in Northern Ireland and in Scotland.

2. To compare and contrast the attitudes and beliefs of respondents in these two countries relating to use and misuse of alcohol.

3. To examine also how the differences between Northern Ireland and Scotland in these behaviours, attitudes and beliefs may alter with increasing age (i.e. between the ages of 11-12 and 14-16).

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[1]Ideally, this study would have also included respondents from England and Wales. However, due to practical constraints, it was necessary to limit the project to two countries.

4. To assess, from these comparisons, the ways in which cultural, national, family, social and religious backgrounds influence behaviours, attitudes and beliefs related to alcohol, tobacco and illicit drugs.

5. To identify priorities for future research and policies to curb harm relating to adolescent use and misuse of alcohol, tobacco and illicit drugs.

3.2 METHODOLOGY

3.2.1 Overview

This section will describe the methodology employed in the project. It is intended to give a broad overview of the methods used to achieve the above aims.

The investigation consisted of a single phase, cross-sectional survey of pupils in six schools in Scotland and six schools in Northern Ireland. Parallel surveys were conducted in Scotland (Lothian and Strathclyde regions) and in Northern Ireland (Belfast and surrounding areas). Within each area, schools were chosen on a quota basis to enable comparisons to be made between the study groups in the two countries.

As far as possible, the study group was dichotomised into Roman Catholic and Protestant denominations. This division is more clear cut in Northern Ireland as segregation is extremely prominent in the Province's education sector[1]. In Scotland a best approximation was obtained by distinguishing between Roman Catholic and non-denominational schools.

[1] Chapter 2B, Section 2B.1 provides a full discussion of educational segregation in Northern Ireland

Two age groups were included in the study: these were 11-12 year olds (first year of secondary education) and 14-16 year olds (final year of compulsory school education). Approximately 50 pupils from each age group were selected from each school. This number was chosen partly because it corresponded to an average year size and meant that no further sampling bias was introduced. As far as possible it was endeavoured to include approximately equal numbers of males and females in the survey.

A distinction was also made between grammar and high (i.e. non-grammar) schools in Northern Ireland, and between education authority and privately funded schools in Scotland. The reason for this was to select schools drawing their pupils from predominantly higher and lower income families.

Data were elicited by the use of a self-completed questionnaire. This was administered in school under supervision from the researcher. Despite being subject to the potential methodological problems of over and under reporting, this type of survey instrument has enjoyed widespread use in studies of adolescent drinking behaviour (e.g. Plant, Peck and Samuel, 1985; Marsh, Dobbs and White, 1986; Craig 1989; Bagnall 1991a; Craig, Francis and McWhirter 1991), and is an efficient way to collect a large amount of quantitative information. The issues of reliability and validity are discussed further in Section 3.5 below. Many of the questions employed to define alcohol use in these surveys were replicated in the present study in order to ensure a high degree of comparability.

A draft questionnaire was piloted in two schools, one in Scotland and one in Northern Ireland, in March 1992. Both age groups were included in the pilot exercise and a mixture of academic abilities was sought. Although, no major difficulties were

encountered, some questions were re-worded to eliminate any ambiguity. The main survey was carried out in late Autumn 1992 and January 1993.

3.2.2 Selection of Areas

As indicated above, the study groups were selected from Lothian and Strathclyde Regions in Scotland and from Belfast and surrounding areas in Northern Ireland. These localities were chosen on the basis of comparability: both are major urban areas, sustaining a large proportion of each country's population. The former contains two of Scotland's major cities, Edinburgh and Glasgow, while the latter is chiefly comprised of Northern Ireland's capital city. Further details pertaining to the respective populations are provided in Table 3.I below.

Table 3.I Geographical distribution of population (1994, mid-year estimates)

Country and area		Population estimates (000s)
Scotland		5 132
• City of Edinburgh local government district		444
• City of Glasgow local government district		680
Northern Ireland		1 642
• Belfast		297

Source: Annual abstract of statistics (1996)

It should be noted here that although the main survey focused on schools in urban areas, the pilot exercise had previously been carried out in more rural regions of the two countries[1]. When the results of this pilot work were compared to the main study, no significant differences relating to drinking behaviour emerged.

3.2.3 Selection of Schools

Six schools from each area were included in the study. These were chosen on a non-random, or quota, basis. As has been emphasised previously, this was not intended to be a general population study, made up of a representative sample of school pupils from the two countries, but rather a comparative project which would assimilate information from two highly comparable study groups. Schools were selected according to two main criteria: religious denomination of the schools and the predominant socio-economic status of their catchment areas.

Thus, as far as possible, the study group was dichotomised into Roman Catholic and Protestant denominations. This division was more clear cut in Northern Ireland as segregation is extremely prominent in the Province's education sector[2]. In Scotland a best approximation was obtained by distinguishing between Catholic and non-denominational schools.

Hickey (1984) has argued: since religious belief has a profound influence in Northern Ireland; as a result differences in religious belief are of major social significance. Empirical evidence to support this argument has come from a study of a non-random group of Northern Irish 14-16 year olds. The results suggested that Roman Catholic

[1] Pilot work was carried out in one school in the South West of Northern Ireland and one school in Central Scotland region.
[2] Chapter 2B, Section 2B.1 provides a full discussion of educational segregation in Northern Ireland

attitudes were stricter on questions of sexual morality, the sacredness of life, violence and social justice; whereas Protestants were more strict where gambling or smoking were concerned. These denominational differences in attitudes have also been demonstrated outside Northern Ireland; Greeley (1989) examined survey data from seven countries, and found that there were consistent differences in attitudes between Catholics and Protestants.

Nevertheless, it was hypothesised that there might be differences in drinking behaviour between Northern Irish Catholics and Protestants that may not be found amongst their Scottish contemporaries. According to many commentators, marked differences between Protestants and Catholics are peculiar to Northern Ireland, at least in the late twentieth century (Cairns 1991).

It is noted that although Scottish non-denominational schools may be referred to as 'Protestant' throughout the text for ease of explanation, they did contain respondents who were not affiliated to a Christian church. However, attention will be drawn to this at appropriate points in the text. Furthermore, there was also potential for Roman Catholic schools in Scotland to contain non-Christians. However, discussions with headteachers prior to the fieldwork indicated that such individuals constituted a very small minority of their pupil intake.

A further complicating factor in the selection of schools along the dimension of religious affiliation occurred in Northern Ireland where, amongst the Roman Catholic community, 41% of secondary education takes place in single-sex schools (The Council for Catholic Maintained Schools, personal communication). Thus, to try to minimise the potential of bias due to school structure, both single sex and co-educational Roman Catholic schools from the Province were included in the sample.

It was also postulated that socio-economic status might have a bearing on drinking behaviour. As was discussed in Chapter 1, Section 1.2.1, previous research (e.g. Currie, Todd and Wijckmans 1993; Jessor at al 1980; 1990; 1991; Zucker and Harford 1983) has shown socio-economic factors to have a bearing on use of alcohol and other drugs. However, the exact nature and impact of such effects appear uncertain. National evidence from the General Household Surveys (e.g. Thomas et al 1994) has demonstrated that adults of professional status are more likely to drink alcohol than their manual and semi-skilled counterparts. However, when those of blue collar status do drink, they tend to do so more heavily, if less frequently. It would thus be valuable to determine whether or not such socio-economic differences transmit themselves to adolescents' use of alcohol.

For this reason schools were divided into those with predominantly higher and lower income catchment areas. In practice, this involved distinguishing between education authority and privately funded schools in Scotland, and between grammar and high (i.e. non-grammar) schools in Northern Ireland. The latter country still retains a procedure for dividing pupils according to academic ability at the end of their primary career. Similar in nature to the old '11 plus' examinations, the prospective high achievers progress on to grammar schools, while those of lower academic standing receive their secondary education in high schools. Scotland has no such selection procedure but does have parallel systems of private fee-paying and education authority funded education. As such, the segregation criteria were not strictly comparable between the two countries. However, other studies (e.g. Fee 1983; Meighan 1986) have noted a consistent link between higher socio-economic status and academic performance, and so these measures were considered satisfactory for the purposes of this study.

At the time of writing, 32% of secondary pupils in Northern Ireland were educated in grammar schools, and only 8% of Scottish pupils attended independent schools (Department of Education for Northern Ireland and Scottish Education Department, personal communication). This discrepancy obviously had implications for the representativeness of the data collected in this study, an issue which will receive further attention in the concluding chapter (Chapter 8, Section 8.3.3).

Given these specific criteria, the selection procedure for schools was one of stratified sampling. Consequently, once the schools had been sorted according to the factors outlined above[1], individual institutions were chosen by a process of random number selection. Head teachers of privately funded (Scotland) and voluntary grammar (Northern Ireland) schools were contacted directly by the researcher. Permission was given from Lothian and Strathclyde Regional Councils, Belfast Education and Library Board and The Council for Catholic Maintained Schools to include schools under their jurisdiction in the study. Key teachers were then approached by the researcher, initially in writing to determine whether or not the school would be willing to participate. Where this approach was successful, the researcher then visited the school to discuss detailed requirements. All schools contacted in Scotland were willing to participate. However there was slightly more difficulty in meeting the quota in Northern Ireland. Resistance came mainly from schools in West Belfast, an area of immense political sensitivity. Moreover, perhaps due to the reputation of the area, a few school head teachers reported that they had been over-sampled in previous projects and were suffering from 'survey fatigue'. Nevertheless, as this area is densely populated and contains several schools, it was possible to include it in the study.

[1] i.e. Roman Catholic vs. Protestant/non-denominational (also allowing for single sex Roman Catholic schools in Northern Ireland); and Grammar/Independent vs. Secondary/Education Authority.

In total, 12 schools were included in the study: further details are presented in Table 3.II below.

Table 3.II: Details of Selection of Schools for Inclusion in the Study Group.

Number of schools to be selected						
	Scotland		Northern Ireland			
	Roman Catholic	Non-denominational	Roman Catholic			Protestar
			Male	Female	Co-educational	
Independent/ Grammar	1	1	1	1	1	1
Education Authority/ Secondary	1	1	1	1	1	1

3.2.4 Selection of Pupils

As one of the aims of the study was to determine how differences between Scotland and Northern Ireland in the use of alcohol, tobacco and illicit drugs might change with age, two age groups were selected from each school for inclusion in the study. These were drawn from the first form/year of secondary education and from the year in which pupils sit their General Certificate of Secondary Education exams in Northern Ireland and their Standard Grade examinations in Scotland. The younger age group contained respondents aged eleven and twelve years old, the older group was comprised of fourteen, fifteen and sixteen year olds.

As seen in Chapter 2A (Section 2A.1.2) the consensus of evidence from other large scale surveys of adolescent drinking (e.g. Marsh, Dobbs and White 1986) is that alcohol use increases with age. Once again, due to different educational systems in Northern Ireland and Scotland, there was potential for discrepancies between the age groups in each of the counties, and for these differences to affect patterns of alcohol and drug use. As West (1993) has identified, the age at which pupils in Scotland transfer to secondary education is defined by reference to the *middle* of the school year, whereas in Northern Ireland, the age of transfer is related to the *beginning* of the school year. As both countries have the same number of years in primary education (unlike England and Wales which have one less), this means that in first year of secondary education, the mean age of Northern Irish pupils is lower than for first year in Scotland. On the other hand, Scottish pupils have only four years of statutory secondary education, compared to five in Northern Ireland, the implications of which are that the mean age for the older age group included in the study could have actually been younger in Scotland than in Northern Ireland. Further attention to possible effects of these differences will be addressed in Chapter 8, Section 8.3.2.

It was intended to select 50 pupils from each age group from each of the twelve participating schools. This would give 1200 respondents in total. This number was chosen partly because it corresponded to an average year size and would thus mean that no further sampling bias would be introduced. However, again complications were introduced by the fact that in single-sex Roman Catholic schools in Northern Ireland, frequently class sizes were smaller than 50; and in Scotland, especially in the state education sector, class sizes tended to be larger. In these cases, the whole class was eligible for inclusion in the survey. The implications of this are considered further in Section 3.8.

It was also endeavoured to survey approximately equal numbers of males and females. The consensus of opinion from previous studies is that gender is an important discriminating variable in drinking patterns and attitudes to alcohol, with males typically being classed as heavier drinkers than females (Marsh, Dobbs and White 1986; Plant et al 1990; Plant and Foster 1991). Moreover, males and females may use alcohol and drugs for different reasons. In her investigation of the drinking behaviour of 13 year olds in England, Scotland and Wales, Bagnall (1988) found that young males were more likely than females to give reasons for drinking such as: *'so as not to be the odd one out in a group'*; *'to help me mix more easily with other people'*; *'to help me talk to members of the opposite sex more easily'*; and *'to look good in front of other people'*.

3.3 The Self-Completed Questionnaire

Data were elicited by the use of a self-completed questionnaire. This was administered in school under supervision from the author . It was anticipated that the respondents would complete the questionnaire in around thirty minutes (a class period) under exam-like conditions. For the purpose of explanation the questionnaire can be divided into seven sections:

3.3.1 Biographical details

3.3.2 Questions for those who drink alcohol

3.3.3 Questions for non-drinkers

3.3.4 Questions relating to tobacco and illicit drugs

3.3.5 Attitudes towards alcohol

3.3.6 Lifestyle details

3.3.7 Extent of education relating to alcohol, tobacco and illicit drugs.

The following sections will give some explanation of the rationale employed in the choice of questions under each of these headings. Throughout, the main aim was to explore possible similarities and differences in experiences, behaviours and attitudes relating to youthful use of alcohol and other drugs between the two countries studied.

3.3.1 Biographical Details

In addition to collecting details of age and gender, this section sought to determine with whom the respondent lived. The relationship of the first two variables with youthful drinking and other drug use have already been discussed. However, family structure has also been shown to have a significant impact on such behaviour (see Chapter 1, Sections 1.2.1 - 1.2.3, for further details). The question 'How many brothers and sisters do you have?' was asked for two reasons. Firstly, a large family size *may* be an indicator of religion in that the Roman Catholic church is against abortion and proscribes the use of artificial birth control. Secondly, the question was included to try to determine if family size might be related to drinking behaviour and use of other drugs.

3.3.2 Questions for Those Who Drink Alcohol

The questions under this heading incorporated many of those used in previous surveys of adolescent drinking (e.g. Plant, Peck and Samuel 1985; Marsh, Dobbs and White 1986; Bagnall 1991a). These questions were designed to capture details of the respondent's first drink of alcohol (age of first drink; from whom the drink was obtained; how long until next drink); details of the respondent's most recent drinking occasion (when; where; with whom; how much); reasons why the respondents drink and experiences connected with drinking. A drinking 'diary' relating to alcohol use in the week preceding the questionnaire was also included.

When answering questions requiring details of their consumption of alcohol, the respondents were asked to follow the style of examples given; for example (on the last drinking occasion) 'I had two pints of lager, one bottle of Diamond White and one vodka and lemonade'. This format proved to be 'user friendly' to the pupils, and allowed more accurate calculation of alcohol consumption. These details were converted into units by the researcher. A single unit contains approximately 7.9g or 1cl of absolute alcohol and is equivalent to half a pint of ordinary strength beer, lager or cider[1], or to a single public house measure of spirits in Scotland (in Northern Ireland a unit is equivalent to two thirds of a single measure of spirits) or a glass of wine.

This section also incorporated some questions on alcohol-related consequences and reasons for consuming alcohol. Included in the reasons for drinking was a question which asked the respondent if they felt that they had to drink alcohol in order to have a good time with their friends or at a social event. This was intended to measure the (perceived) attitude of the respondent's peer group towards alcohol.

3.3.3 Questions for non-drinkers

This section investigated respondents reasons for abstaining from alcohol, asked if they thought that they may drink alcohol when they were older, and attempted to determine whether they ever felt pressured into taking an alcoholic drink. Details of their reported reasons for abstaining were sought. These reasons included: 'I dislike the taste'; 'My parents disapprove of drinking'; 'Drinking is against my religious beliefs'; and 'My friends are against drinking'. The respondents were required to answer 'True' or 'False' to each statement, but were also given an opportunity to state their principal reason for not drinking.

[1] i.e. around 3.5% alcohol by volume.

3.3.4 Questions Relating to Tobacco and Illicit Drugs

This survey was originally intended to collect information only on drinking behaviour. However, because of the weight of research evidence linking youthful drinking, particularly heavier drinking, with smoking and use of other drugs, it was decided to include a brief section on these latter aspects. Information was elicited concerning lifetime and current prevalence of smoking, as well as age of first cigarette and quantity of cigarettes smoked.

Data collected about illicit drug use were extremely limited at the request of some of the co-operating schools. Consequently, no information was obtained about age of first use or about current use. Instead, a list of illicit and other drugs was given and the respondents were asked to indicate how often, if ever they had tried these substances. It was stressed that they were not to include drugs prescribed to them by a doctor. The list comprised cannabis, LSD, Ecstasy (MDMA), magic mushrooms, glues and solvents, cocaine, heroin, barbiturates, amphetamines, sleeping tablets and painkillers. A fictional drug, 'astrolite', was also included. Coggans et al. (1990) employed this 'drug' in their study as a check on the truthfulness of respondents' answers.

3.3.5 Attitudes towards alcohol

This section was to be completed by all respondents, whether or not they drank alcohol. This enabled a comparison to be made between the attitudes of drinkers and those of abstainers. Respondents were required to indicate their attitudes towards a number of statements. For example, they were asked to indicate their degree of approval or disapproval of seeing a male friend drunk or having three or four drinks on one occasion. All categories were split into male and female, as other studies (Aitken 1978; O'Connor

1978; Fossey 1993; Loretto, May and Bittker 1993) have shown that prejudice exists towards females appearing to be under the influence of alcohol. Respondents were also asked what they thought their parents' attitudes were towards men and women drinking and to the respondent themselves drinking. In her survey of Irish and English young people, O'Connor (1978) found that perceived parental attitudes held by the young people were actually better indicators of behaviour than the parents' actual attitudes towards alcohol.

3.3.6 Lifestyle details

Questions were asked in relation to religion, personal income, leisure and future intentions. The respondents were asked how often, if ever, they attended a religious service. It was anticipated that this would give a more specific measure of religiosity than merely asking the respondents to state their religion. This latter question has proved to be a sensitive one in Northern Ireland and may have alienated students if it were included in the present exercise. In relation to this, respondents were also asked if they had ever taken a pledge not to drink, either until a certain age, or to abstain completely from alcohol.

In relation to personal income, respondents were asked how much money they had to spend as they liked on a weekly basis and how much of this was earned income (i.e. from a part time job). It was hoped to assess if there was any relationship between the respondents' personal financial resources and the amount they spent on alcohol, tobacco and illicit drugs.

On a scale from 'never' to 'once a week or more', respondents were asked to show how often they took part in a selection of leisure activities. These activities ranged from going

to the cinema, playing a sport, going shopping through to more formal activities such as attending a youth club or other organised association such as guides or scouts. Activities associated with drinking were also included; for example, going to the pub or to a disco.

The questions: 'At what age do you think that you will leave school?' and 'What would you like to do when you leave school?' were asked to measure the respondents' aspirations for their own futures and to determine how positive their outlooks on school were.

3.3.7 Alcohol, tobacco and illicit drugs education

One response to widespread concern about youthful drug use has been the endorsement of formalised drug education for young people. To measure exposure to such initiatives, respondents were asked to indicate if they had received any education relating to alcohol, drugs and tobacco from sources both within school and from outside agencies. Sources external to the school setting ranged from parents through to information portrayed by the media.

As the questionnaire was completed by respondents ranging in age from 11 to 16 years old and of mixed academic ability, the wording and format were kept relatively simple, with the respondents, for the most part, being asked to tick the appropriate box when answering each question. A copy of the questionnaire is presented in Appendix A.

3.4 Survey Administration

3.4.1 Pre-testing

Pilot work was organised in two schools - one in Scotland and one in Northern Ireland - to test the draft questionnaire and the overall fieldwork procedure. The pupils in both study groups found this instrument interesting and straightforward to complete. Minor modifications were made in order to make completion easier for those with reading difficulties.

3.4.2 Main survey

The majority of the main fieldwork was carried out in the Autumn of 1992. Care was taken when choosing the dates of data collection to ensure that results would not be influenced by seasonal factors such as Christmas and Hogmanay. The choice of dates was also influenced by the involvement of the older age group in 'mock' examinations or prelims. This meant that some schools in Northern Ireland were surveyed in January 1993. In order to minimise the potential bias in alcohol consumption that could occur over Christmas and New Year, the fieldwork was undertaken in the last week of January. Nevertheless, this factor was examined further when analysing alcohol consumption data, particular those relating to recency of drinking (See Chapter 4.6.3).

In accordance with standard survey procedures, the anonymity of all schools and individual respondents was assured. Before completing the questionnaire, all selected pupils and their families were issued with a letter explaining the scope of the study and requesting parents who did not wish their child to participate to complete and return a tear-off slip. This procedure is preferable to requesting parents to volunteer children for

participation in such research. Past experience suggests that the latter usually produce extremely low response rates due to apathy (e.g. Plant, Peck and Samuel 1985).

The questionnaires were completed in class or year groups under examination conditions i.e. with the pupils seated apart to discourage copying or any communication which might influence responses. In this way the administration of the questionnaire was standardised as far as was practically possible. Also in relation to this uniformity, data collection was supervised by the researcher in all schools, on some occasions with assistance provided by colleagues from the Alcohol Research Group. It was important that supervision was by persons unknown to the pupils. Therefore teaching staff were requested not to be present at these sessions, other than to introduce the researcher. Teachers did, however, agree to be readily available should any problems arise. The number of pupils in each session was restricted to approximately 50, as discipline of this size of group was manageable.

This exclusion of teachers also acted as a reassurance of confidentiality. All respondents were given written and verbal assurances that their answers would be confidential to the study and would not be seen by teachers or parents. Standard instructions, reinforcing confidentiality and anonymity, were printed at the beginning of the questionnaire and these were read out at the start of each data collection section. Several studies (e.g. Grube and Morgan 1986) have demonstrated that assured confidentiality of responses enhances the validity of self-report measures. The researcher sought to achieve atmosphere of friendly co-operation, with the honesty of answers being stressed. Respondents were also told that although their seating was arranged in exam style, the questionnaire was not a test and there were no right or wrong answers, only honest ones. It was also stressed that pupils should raise their hands for individual advice if they encountered any difficulties.

In most schools, a minimum time of one period (40 minutes) was allocated for completion of the survey instrument. In practice, the average completion time was around 20-25 minutes. All respondents were requested to remain seated for the allocated time. This was to avoid distracting those pupils who were slower to complete. A word game, adopted from Bagnall's (1991a) questionnaire was distributed to occupy those who finished early. Pupils with reading or other learning difficulties were identified prior to the sessions and were then provided with whatever help they needed to participate in the survey.

3.5 Validity and Reliability

Using a self-completed survey schedule to collect information, particularly from young people has long been the subject of debate in relation to the issues of reliability and validity. Validity is concerned with how well the concept (e.g. young people's drinking behaviour) is defined by the measures or questions employed, while reliability relates to the consistency of responses between the measures. Each of these concepts is discussed in turn.

3.5.1 Validity

Validity has been defined as the extent to which a set of measures, or questions, correctly represents the concept of the study and the degree to which it is free from any systematic or non-random error (Hair et al 1995: 3). In other words it is important to consider whether the data collection techniques do in fact measure what they were intended to measure.

Surveys of self-reported behaviour are inevitably linked with the issues of both under-reporting and over-reporting. Either can result simply from poor memory recall; a respondent may genuinely not remember how much (s)he had to drink in the preceding week. This effect may be emphasised by the manner in which many adolescents drink, i.e. often in a chaotic manner, mixing different beverages in order to achieve intoxication as quickly or as cheaply as possible.

Under-reporting may also occur because the respondent wishes to convey an image of drinking less than in reality (Single, Kandel and Johnson 1975; Barnea, Rahav and Teichman 1987). Again this may be particularly relevant to young people who often obtain or drink their alcohol in an illegal manner, e.g. under-age drinking in public houses. This was the main reason for excluding teachers from the data collection sessions. In addition, it has been suggested that the higher the perceived anonymity of responses, the less tendency there is towards socially desirable responding and under-reporting of alcohol and drug use (Bjarnason 1995).

On the other hand, boasting, or a desire to impress, may result in exaggerated reports of substance use. Crawford (1987: 168) identified a tendency for adult respondents 'to under-estimate their frequency of drinking, and to over-estimate the quantity consumed on a typical drinking occasion'. Arising from this, he recommended that self-report survey instruments should include lie scales or social desirability scales. In the present study, in the question relating to use of illicit drugs, a fictional drug, astrolite, was included in the list of substances. Coggans et al (1990) previously employed this strategy as a check on the validity of answers.

During the data collection sessions of the present study, the researcher sought to achieve an atmosphere of friendly co-operation, with the importance of honest answers being

stressed. However, this was no guarantee that over and under-reporting were reduced. Self-reported tobacco consumption may be verified with a saliva testing technique which produces biochemical evidence of the presence of nicotine. However, no resources were available for saliva testing in the present project.

Lack of comprehension may influence the validity of questionnaire answers. Thus every effort was made to keep the language used as simple as possible. In particular, respondents involved in the pilot study were encouraged to alert the author to any problems or areas of difficulty. Moreover, during the construction of the questionnaire steps were taken to minimise response bias. These included avoiding the use of emotive words or implying positive or negative approaches to questions.

3.5.2 Reliability

Reliability is the extent to which a variable or set of variables is consistent in what it is intended to measure. If multiple measures are taken, reliable measures will all be very consistent in their values. (Hair at al 1995: 2). It differs from validity in that it does not relate to what should be measured, but instead how it is measured.

Test-retest reliability

Reliability and consistency of data obtained through self-report surveys is a main issue of concern. The major question raised is: would the results be the same if the survey was repeated on the same study group? This test-retest reliability of questionnaire responses was implemented by Plant, Peck and Samuel (1985) in their survey of teenagers. The authors retested over two thirds of their study group four months after the original surveys. Despite some inconsistencies, they concluded that, overall the results were very

similar in both surveys. However, the present survey involved only a single phase of data collection which precluded this test of reliability. Furthermore, it was considered that teaching staff would not have agreed to a second disruption of their normal school routine.

Alternative-forms reliability

The primary method of assessing reliability of survey data is to compare findings to other relevant studies. For example, as mentioned earlier, evidence from other studies of adolescent alcohol use has, without exception, demonstrated that the prevalence of drinking amongst young people increases with age. This approach was adopted in the present project. In consequence, findings presented will be compared to results from other studies where appropriate.

Internal comparison reliability

This involves the assessment of associations between responses amongst various measures on a multiple-item index or between multiple measures. Notably, in a questionnaire, two questions phrased in different ways may be employed to elicit the same information. A comparison of the answers to these questions will give some indications of the degree of reliability. Where appropriate, this technique was employed in the present study. For example, respondents were asked when they had most recently consumed alcohol. Those who indicated that they had most recently been drinking in the week preceding the survey could then be compared to those who complete the seven-day drinking diary.

Scorer reliability

This is also known as inter-rater reliability, and involves comparing the scores or interpretation assigned to the same qualitative material by two or more judges. Although, as previously stated most of the answers to the questions contained in this survey were pre-coded, some, e.g. converting alcohol into units, were open to interpretation. Thus it was important to operate continuous checks between the two coders to maximise reliability.

Further sources of bias inherent in this form of study design include the possibility of under representation of heavy drinkers in that, young people who are the heaviest drinkers may be more likely to be non-attendees at school and therefore absent during the survey . However, as far as the researcher could determine, none of those who missed the survey were considered by their schools to be chronic absentees. Absence from the data collection sessions was markedly more likely to be due to health reasons or to such events as sports tours and careers seminars (for the older age group).

Coggans et al (1991) provided a graphic illustration of the way in which interviewer style can affect results. They questioned a group of school pupils on two occasions about their drug and alcohol use. The respondents were led to believe that these were entirely separate studies. On one occasion, data were obtained by a 'respectable' researcher who was wearing a suit, and the other by an informally dressed, casually acting researcher. It was found that reported alcohol consumption was higher for the 'casual' researcher. It has also been noted (McKennel 1980) that the interviewer may bias responses when information is collected from school age respondents by face to face interviews in the home setting. This particular source of bias was eliminated by using self-completed questionnaires and administering them in the school setting.

Moreover, other advantages of this form of data collection are that a large study group may be surveyed relatively cheaply and easily, and that the responses obtained are comparable both within the study and to other survey findings. Nevertheless, given the limitations outlined in this section all results should be treated with caution, and although they provide an indication of the different patterns of adolescent use, 'one should not be tempted to place excessive trust in the precise percentage produced' (Plant, Peck and Samuel 1985).

3.6 Analysis of Data

3.6.1 Coding and Data Preparation

As with other large scale quantitative surveys using self-completed instruments, the coding frame employed was largely pre-determined by the use of closed questions. A coding scheme was devised by the researcher for open ended questions, such as those collecting details of amounts of alcohol consumed. For example, respondents were asked to record details of the quantities they had consumed on their last drinking occasion. For ease of completion, this was a free response question: the respondents were asked to follow the style of an example in the questionnaire. This format proved to be 'user friendly' to the children, and allowed more accurate calculation of alcohol consumption. These details were converted into units by the researcher.

Individual schools were recoded into two dichotomous variables, one indicating religious denomination (Roman Catholic or Protestant/Non-denominational), and the other relating to the predominant socio-economic status of the school's catchment area.

Internal reliability was tested using a number of consistency checks. Certain answers to some questions implied particular answers to, or were compatible with, others. For example, it was expected that only those respondents who had consumed alcohol within the week preceding the survey would complete the drinking diary retrospectively for those seven days. The answers were checked at the coding stage to gauge the reliability of items.

Two coders were involved in checking the self-completed responses and coding the open questions. Each checked a sample of the other's work. As soon as the checked and coded data had been transferred onto disk, the variables were defined and analysis proceeded using the statistical packages SPSS PC+ V2.0 (Norusis 1988) and GLIM 3.77 (Payne 1987).

3.6.2 Statistical Procedures

Many of the studies conducted into youthful alcohol and drug use have restricted their analysis to bivariate techniques, e.g. chi-squared tests of significance in two-way contingency tables. However, others, notably those which have considered a multitude of factors (e.g. Jessor and Jessor 1977; O'Connor 1978) have employed some method of multivariate analysis, mainly a form of multiple regression analysis. As the current study included a wide variety of factors, all of which could potentially be linked to youthful alcohol, tobacco and illicit drug use, it was believed that multivariate analysis applications would be appropriate. The advantages of such techniques have been appreciated in the literature as allowing for a more complete, realistic understanding of human behaviour.

> 'For the purposes of ...any...applied field, most of our tools are, or should be, multivariate. One is pushed to the conclusion that unless a...problem is treated as a multivariate problem, it is treated superficially' (Gatty 1966: 158)

> 'These [multivariate] methods make it possible to ask specific and precise questions of considerable complexity in natural settings. This makes it possible to conduct theoretically significant research and to evaluate the effects of naturally occurring parametric variations in the context in which they normally occur. In this way, the natural correlations among the manifold influences on behavior can be preserved and separate effects of these influences can be studied statistically without causing a typical isolation of either individuals or variables.' (Hardyck and Petrinovich 1976: 7)

The term 'multivariate analysis' is not used consistently in the literature, being adopted to refer both to multivariable analysis and 'true' multivariate analysis where the purpose is to measure, explain and predict the degree of relationship among variates (weighted combinations of variables). Thus the multivariate character lies not only in the number of variables, but also in the multiple variates. The statistics employed in the analysis of information in the present exercise covered both interpretations, and the definition used by Hair et al (1995) was adopted:

> 'Broadly speaking, it refers to all statistical methods that simultaneously analyse multiple measurements on each individual or object under investigation.' (Hair et al 1995 : 5)

Before embarking on a discussion of the exact techniques used, it is worth classifying the types of data collected. The importance of identifying the correct measurement scales

lies in determining which multivariate techniques are most applicable to the data, with considerations being made for both dependent and independent variables.

Most data collected in this study were non-metric or qualitative in nature. They were in the form of attributes, characteristics or categorical properties used to identify or describe a subject or state. Within this classification, most variables were nominal, e.g. male vs. female, while some, e.g. degree of drug use, were ordinal. Nominal (or categorical) measurements provide the number of occurrences in each class or category of the variable being studied. Therefore the numbers assigned to the objects have no quantitative meaning beyond indicating the presence or absence of the attribute or characteristic under investigation. With ordinal scales, each variable can be ranked in relation to the amount of attribute possessed. Every subclass can then be compared with another in terms of a 'greater than' or 'less than' relationship. However, the numbers used are still non-quantitative as they indicate only relative positions in an ordered series.

Very few data collected were metric, that is measurements used to identify or describe subjects not only in possession of an attribute, but also by the amount or degree to which a subject could be characterised by that attribute. An example was number of units of alcohol consumed on last drinking occasion.

Two main categories of multivariate analysis were used[1]. The first of these, dependence techniques, denotes a classification of statistical techniques distinguished by having a variable or set of variables identified as the dependent variable(s) and the remaining variables as independent. The objective is prediction of the dependent variable(s) by the independent variables. The main techniques used in this classification were logistic and log-linear regression, and analysis of variance procedures. The second category, interdependence techniques, is a classification for which the variables are not divided into dependent and independent groups, but where all variables are analysed as a single set. The only interdependence technique used was cluster analysis.

All of the multivariate techniques used, apart from cluster analysis, were based on the statistical inference of a population's values or relationships among variables from a randomly drawn sample of that population[2]. The objective was to identify empirical evidence of multivariate relationships in the sample data that could be generalised to the total population.

Each of the main techniques employed will now be discussed in turn:

[1] Some preliminary bivariate analysis was also undertaken. In the main, this employed tests of difference (chi-square) or association (Pearson correlation coefficient). In the presentation of results, if the probability (p) is less than 0.05, this indicates a statistically significant difference or association between measures, i.e. less than 5% likely to have happened by chance due to sampling procedures.
[2]However, it should be noted that the 'population' for the present study would not reflect the general population of school pupils in the two countries, given the particular characteristics of the study design.

Logistic and log-linear regression

Multiple regression analysis, or general linear modelling, is a multivariate statistical technique used to examine the relationship between a single dependent variable and a set of independent variables.

> 'The multivariate character of multiple regression that differentiates it from its univariate counterparts is the simultaneous assessment of relationships between each independent variable and the dependent measure. In making this simultaneous assessment, the *relative* importance of each predictor is determined.' (Hair et al 1995 : 100)

Log-linear modelling is a special form of multiple regression which is appropriate for use when the dependent or response variable is non-metric in nature. In logistic regression, one of the variables in a multiway contingency table has two categories and is treated as a response or dependent variable, while the other variables in the tables are treated as explanatory variables. Log-linear models are used when the response variable has more than two categories.

Accordingly, logistic regression (or logit analysis) is a specific form of regression in which the dependent variable is a non-metric, dichotomous (binary) variable. Linear probability models are not appropriate as the assumption of normality for testing is clearly violated. Therefore, the probability has to be transformed. Logit analysis derives

its name from the logit transformation used with the independent variable[1]. The general manner of interpretation is quite similar to linear regression and, as a consequence, it is one of the most widely used linear probability models.

The procedure that calculates the logit coefficient compares the probability of an event occurring with the probability of its not occurring. For example, if A and B are two mutually exclusive events, say drinking and abstaining, then the ratio of the probabilities:

$$pr(A)/pr(B) = pr(A)/1\text{-}pr(A) = \text{odds in favour of event A} = \textbf{odds A}.$$

Since there is a one-to-one correspondence between the odds in favour of an event and the probability of that event, the two concepts implicitly convey the same information. Thus odds are simply a ratio of two frequencies and an alternative way of expressing probabilities (Payne, Payne and Heath 1993).

Odds and ratios of odds provide a very convenient way of interpreting both logistic and log-linear models. The **odds ratio** is a basic quantity in the analysis of contingency tables. It is defined as the ratio of two odds and represents a measure of association between explanatory and response variables. This is most easily illustrated by a practical

[1]This refers to the logit link function, where logit(p)= log (p/(1-p)). It is noted that the probit transformation could also be applied, but the logit is generally preferred as it allows for easier interpretation of the logit as a log odds.

example. If drinking is the response variable, the odds of drinking versus abstaining are of interest. If for the dichotomous explanatory variable of gender, the odds ratios of female: male are 0.5 then the odds of males drinking versus abstaining are twice the odds of females drinking versus abstaining. Or in other words, the expected relative frequency of females drinking is half that for males.

The logistic or log(odds) model assumes that the logarithm of the odds, known as the logit of the corresponding probability, is linearly related to the explanatory variables. The estimated coefficients are expressed in logarithms and need to be transformed back (the antilog of the value taken) so that their relative effect on the probabilities is assessed more easily. Very simply, a positive coefficient increases the probability, while a negative value decreases the predicted probability. If any coefficient is positive, its antilog will be greater than one and the odds ratio will increase. Thus the predicted probability of the event occurring is increased and the predicted probability of its not occurring is reduced. Likewise if a given coefficient is negative, the antilog will be less than one and the odds will be decreased. A coefficient of zero equates to a value of 1, resulting in no change in odds.

All logistic and log-linear analysis in this project used indicator coding, where the reference category is given the value zero across all variables, and the coefficients represent group deviations from the reference group. The other type of coding is known as effects coding. In this case, the reference category receives a value of -1 and the

coefficients become group deviations. It is acknowledged that indicator coding is most appropriate where there is a logical comparison group (e.g. Hair, Anderson and Tatham 1987; Hair et al 1995:110). This had implications for the statistical package used to analyse the data. In SPSS, when indicator coding was adopted, and interactions between explanatory variables had a significant effect on the model, SPSS would include the significant interactions in the model without also including the variables that made up those interactions. As a result, GLIM (3.77) was employed for these analyses.

In constructing the logistic and log-linear models, the principle of variable selection adopted was forward selection. This starts with a simple model and adds other explanatory variables stepwise, allowing for an examination of the contribution of each predictor variable to the regression model. Thus each variable is considered prior to inclusion in the equation. Explanatory variables already entered in previous stages can be deleted in subsequent stages. Interaction/moderator effects - where the moderator variable, a second independent variable, changes the form of relationship between another independent variable and the dependent variable - were of particular interest in this study.

In order to test an hypothesis that any given model fitted the observed data, the likelihood ratio test statistic was used. This measure is also known as the 'deviance' and the aim was to achieve a model with the lowest possible deviance relative to the degrees

of freedom used by the model. It was decided to stop adding variables when goodness-of-fit was 'satisfactory' (or improvement of fit was small).

The same way of operationalising the process of hypothesis testing applies to the log-linear model. As explained above, the log-linear model was used wherever the response variable had more than two categories, e.g. location of drinking, and where these were unordered. In log-linear models, the response is a discrete count, cross-classified by a number of factors (the explanatory variables)

The log-linear model is very similar in formulation to the logistic model and similar notation can be used. The essential difference is that it is not the log odds that are modelled, but the log frequency in each cell (the natural logarithm of the observed cell frequency). Payne, Payne and Heath (1993) argue that as the parameters of the logistic model are easier to interpret than those of the log-linear model, the logistic model is preferred when the response variable is binary.

Although discriminant analysis is also appropriate when the dependent variable is non-metric, Hair et al (1995) argue that logit analysis may be preferred as discriminant analysis relies on strictly meeting the assumptions of multivariate normality and equal variance-covariance matrices across groups. Logistic analysis is not subject to these strict assumptions and so finds wider applicability.

Univariate analysis of variance (ANOVA)

This is a statistical technique used to determine whether samples come from populations with equal means. Univariate analysis of variance employs one dependent measure. The dependent variable should be metric and normally distributed. The procedure compares two estimates of variance for the dependent variable:

(i) Within-groups estimate of variance/error variance: an estimate of the random respondents variability on the dependent variable within a treatment group[1]. It is based on the deviations of individual scores from their group means, but not on the differences between group means.

(ii) Between-groups estimate of variance: the variability of the treatment group means on the dependent variable. It is based on deviations of group means from the overall grand mean of all scores.

The ratio of 'within-groups variance' to 'between-groups variance' is a measure of how much variance is attributable to the different treatments versus the variance expected from random sampling. The ratio gives a value for the F statistic. Because group differences tend to inflate between-groups differences, large values of the F statistic lead to the rejection of the null hypothesis of no difference in means across groups. F

[1]The treatment group here refers to all those independent variables that have been included in the model as potentially affecting the mean of the dependent variable.

statistics are calculated for each treatment. To determine if the F statistic is sufficiently large, the F distribution is referred at a specified level, usually 0.05 or below.

ANOVA procedures adopted in this exercise examined both main effects - the individual effect of each treatment variable on the dependent variable and interaction effects - the joint effects of two treatment variables in addition to the main effects. Where significant differences were found, post hoc tests were then conducted to examine the actual differences in means.

As stated above, it is assumed that the dependent variable is normally distributed and that variances are equal for all treatment groups. However, Hair, Anderson and Tatham (1987) cite evidence that F tests in ANOVA are robust with regard to these assumptions, except in extreme cases. They note that with moderate sample sizes, modest violations can be accommodated as long as the differences are due to skewness and not outliers. As data in the present study were skewed (e.g. alcohol consumption was positively skewed towards lower levels of consumption), logarithmic transformations were applied in order to achieve normality[1] and to create a better measure of the relationship.

Although the t-test also deals with means data, using multiple t-tests would have inflated the possibility rejecting the null hypothesis incorrectly, i.e. concluding erroneously that

[1]Normality is the degree to which the sample data corresponds to a normal distribution. This is a theoretical continuous probability distribution in which the horizontal axis represents all possible values of a variable and the vertical axis represents the probability of those values occurring. The scores on the variable are clustered around the mean in a symmetrical, unimodal pattern, known as the bell-shaped, or normal, curve.

differences existed between the means. ANOVA avoids this error by determining whether the entire set of sample means suggests that the samples were drawn from the same general population.

Cluster analysis

As Hair et al (1995) noted, cluster analysis is the most commonly used technique of searching for a 'natural' structure among observations based on a multivariate profile. This is a technique for grouping individuals or objects into clusters so that objects in the same cluster are more like one another than they are like objects in other clusters.

> 'Cluster analysis is an analytical technique for developing meaningful sub-groups of individuals or objects. Specifically, the objective is to classify a sample of entities (individuals or objects) into a small number of mutually exclusive groups based on similarities among the entities. In cluster analysis... the groups are not predefined. Instead the technique is used to identify groups.' (Hair et al 1995: 16)

Cluster analysis is not is not a statistical inference technique, where parameters from a sample are assessed as possibly being representative of a population. Instead, it is a objective methodology for quantifying the structural characteristics of a set of observations. Accordingly, the requirement of normality does not need to be met.

Cluster analysis is comparable to factor analysis in its objective of assessing structure. However, it is also different in that cluster analysis groups objects, whereas factor analysis is primarily concerned with grouping variables.

The three stage process of partitioning, interpretation and profiling, suggested by Hair at al was followed. In addition, a final stage of cluster validation was undertaken to ensure that the clusters represented actual differences and not merely chance occurrences.

It is recommended that association measures of similarity be used to measure inter-object similarity for non-metric data (Norusis 1988). Thus the ratio of the between-cluster variation to the average within-cluster variation is comparable to but not identical to the F ratio in analysis of variance. Clusters should exhibit high internal (within-cluster) homogeneity and high external (between-cluster) heterogeneity.

Clustering procedures are classified as either hierarchical or non-hierarchical. Milligan (1980) has recommended employing both methods to gain the benefits of each. First, a hierarchical technique can establish the number of clusters, profile the cluster centres, and identify any obvious outliers. After outliers are eliminated, the remaining observations are then clustered by a non-hierarchical method, with the cluster centres from the hierarchical results as initial seed points.

However, hierarchical methods are not amenable to analysing very large samples, because of data storage requirements. Thus, a modified from of this approach was adopted in the current exercise, whereby hierarchical analysis was initially conducted on repeated random samples of the responses to establish the number of clusters and the

cluster centres. An agglomerative method was employed: this begins with each object or observation in a separate cluster. In subsequent steps, object clusters that are closest together are combined to build a new aggregate cluster. The method of linkage used was average linkage.

In determining the number of clusters to be formed the distances between clusters at successive steps served as a useful guideline, It was decided to stop when successive distances between steps made a sudden jump. K-means, or the quick cluster process, in SPSS was then used to assign the remainder of the responses into clusters.

The interpretation stage involved examining the cluster variate to assign a label that accurately describes the nature of the clusters. Finally, the profiling stage involved describing the characteristics of each cluster to explain possible differences on relevant dimensions.

The issues of reliability and validity in cluster analysis are of concern since a cluster solution will be reached even when there are no natural groupings in the data. It is therefore imperative that some tests are conducted which determine whether the solution differs from a random solution. However, the extent to which this is possible is limited by the lack of accompanying significance tests (Hartigan 1975).

Reliability was assessed by the split-half cross-validation test (recommended by Hair at al 1995 and Arnold 1979). The test consisted of randomly dividing the study group into two sub-samples and performing cluster analysis on each sub-sample. Cross validation was achieved, firstly, by comparing sub-segment percentage distribution of cases between the two subsamples, and secondly, by comparing the cluster centres of the two subsamples across the specific variables used in the cluster procedure.

The results of the survey will be presented and analysed in the Chapters 4-7.

3.7 Response

As was detailed in Section 3.2.3, twelve schools were selected for inclusion in the study. Some of these stipulated, mainly for reasons of convenience, that entire years or form classes be included in the survey. As it had been intended to select 50 pupils from each age group in each school, where this number corresponded to average year size, this stipulation offered a convenient way of avoiding further selection bias. It was initially intended that in those schools that did not set this pre-requisite, the researcher would chose 50 pupils from each age group in each school by a process of random number selection. However, it was decided to include all members of a class/year where possible in order to avoid further selection bias throughout the study group. This strategy meant that the numbers of pupils eligible for selection in the study were different from the intended study-group size of 1200. The main reasons for this were discussed in Section 3.2.4: class sizes in single-sex Roman Catholic schools in Northern Ireland tended to be smaller than 50; whereas those in state secondary schools in Scotland had class sizes in excess of 50. Thus, overall, 1350 students were eligible for inclusion in the project (the 'extra' 150 mainly coming from Scottish schools).

A total of 1172 questionnaires were completed. Two schedules were incomplete and 152 pupils were absent from school or were otherwise unavailable for inclusion in the study. As far as the researcher could determine this figure did not include any chronic absentees; a large number of such individuals could have indicated a significant source of non-response bias. In addition, 24 parents refused permission for their children to take part in the study. The net response rate was therefore 86.8%.

3.8 Characteristics of the Study Group

Of the 1172 respondents, 600 were resident in Northern Ireland and 572 in Scotland. As explained in Section 3.2 above, two age groups were included in the study: these were 11-12 year olds (first year of secondary education) and 14-16 year olds (final year of compulsory school education). Schools were divided by religious affiliation (Roman Catholic vs. Protestant/non-denominational) and by socio-economic characteristics of their catchment area. The aim was to include approximately 50 pupils from each age group in each school. Full details of the subdivisions are indicated by Table 3.III.

Table 3.III: Characteristics of Study Group (n=1172)

		Scotland				Northern Ireland			
		Males		Females		Males		Females	
		11-12 years old	14-16 years old	11-12 years old	14-16 years old	11-12 years old	14-16 years old	11-12 years old	14-16 years old
Grammar or Independent	Roman Catholic	30	21	23	20	31	34	24	22
	Protestant	55	36	46	55	55	55	54	58
Secondary or Local authority	Roman Catholic	27	18	20	21	53	60	25	26
	Protestant	57	43	58	42	25	30	26	20

As can be seen from Table 3.III, the cell sizes are far from equal. The principal reason for this was the lack of single-sex Roman Catholic schools in Scotland. It is also important to note that, although it was hoped to survey equal numbers of males and females in each country, the Northern Irish sample contained a significantly higher proportion of older males: this was due to a girls' school dropping out of the survey[1]. This had implications for the analysis of the results, particularly when examining findings for possible differences between the two countries. Given the uneven distribution of the data outlined above, any country effect could merely be due to the age and/or gender imbalance. Accordingly, further analyses using forward stepwise log-linear models were undertaken in order to ascertain whether country independently was likely to have affected the variable under consideration.

In interpreting the results presented in the following chapters, the reader's attention should be drawn to the fact that a small number of pupils failed to answer each question. These 'missing answers' have been excluded from the analysis on a question-by-question basis. This is the recommended procedure (Hair, Anderson and Tatham 1987; Hair et al 1995) so long as the missing responses are randomly distributed. Where it was thought there may have been some underlying pattern to the missing answers or where the incidence was higher than would normally have been expected, possible explanations are offered. Therefore throughout the results, tables that describe the same study group may have slightly varying bases.

A final point to be borne in mind by the reader is that comparisons between Scotland and Northern Ireland may well be affected by some of the shortcomings attached to the measures of age, socio-economic status and religious affiliation employed to stratify the

[1] The school provided no specific reason for this other than general pressure on teachers' time. Unfortunately this school dropped out in the middle of the data collection phases, when it was too late to replace them.

study group. These have been outlined briefly in the present chapter and will be considered more fully in the conclusions to the study (Chapter 8, Section 8.3).

CHAPTER 4

DRINKING BEHAVIOUR

4.0 INTRODUCTION

As stated in Chapter 3 (Section 3.1), the main purpose of this study is to examine and assess the extent of similarities and differences in youthful drinking between Scotland and Northern Ireland. As the information presented in Chapters 1 and 2 has indicated, it has also been recognised that country differences may interact with and be mediated by a wide variety of demographic factors, some of the main ones being gender, age, religious denomination and socio-economic status.

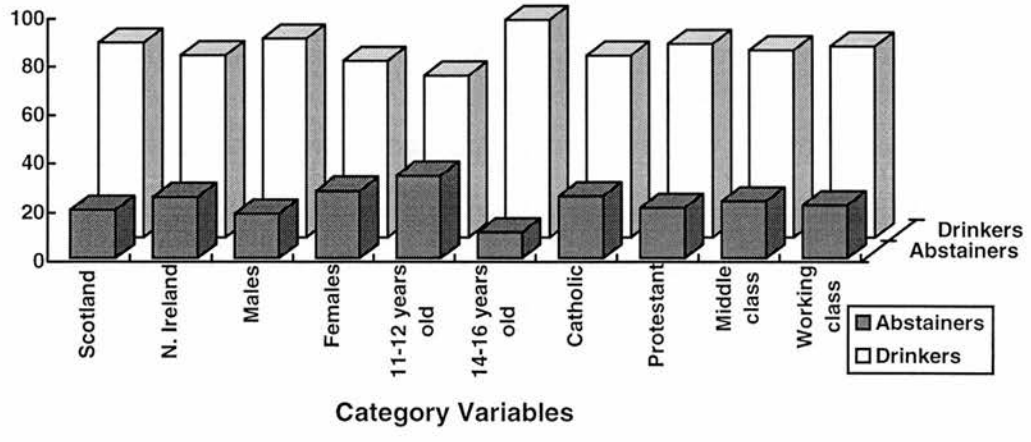
The following chapter therefore contains detailed analyses of various aspects of young people's drinking, and will consider the effect, principally of country, but also all the other variables on patterns of alcohol consumption. The measures used to assess youthful drinking habits are as follows:

- Lifetime prevalence of alcohol consumption;
- Initial experience of alcohol (including details relating to age of first drink and its source);
- Most recent drinking occasion (focusing on contextual details such as recency, company and location, and also amount and type of alcohol consumed);
- Largest amount of alcohol consumed on a single occasion;
- Drinking diary information (frequency, quantity and types of alcohol consumed in the week preceding the survey).

4.1: LIFETIME PREVALENCE OF ALCOHOL CONSUMPTION

The respondents were asked to indicate whether or not they had ever consumed a proper alcoholic drink. It was emphasised that a 'proper' drink was a whole drink and not merely a sip. As predicted by evidence from earlier surveys of UK adolescents, the majority of respondents had consumed a whole alcoholic drink. Under this classification, 906 pupils, 77.4% of the total study group, were drinkers. Thus 22.6%, or 265 pupils, had never consumed a whole drink of alcohol. Those in the latter group were categorised as 'abstainers' for further analysis. The proportions reporting to be drinkers varied according to gender, age, country of residence, religious affiliation and socio-economic status of the respondents. Full details are displayed in Figure 4.I.

Figure 4.I: Abstainers vs Drinkers



As can be seen from Figure 4.I, a significantly lower proportion of the Northern Irish sample had ever consumed a whole alcoholic drink (Northern Ireland 74.8%, Scotland 80.1% $x^2 = 4.36$; d.f. = 1; $p < 0.05$). In other words, the proportion of the Northern Irish study group who abstained from alcohol (25.2%) was significantly greater than the corresponding proportion of Scottish respondents (19.9%). The figure also shows that males were significantly more likely than females to be drinkers: 81.7% of males had

consumed a whole alcoholic drink as opposed to only 72.4% of females ($x^2 = 14.01$; d.f. = 1; $p < 0.001$). Not surprisingly, those aged 14-16 years old were markedly more likely than their younger colleagues to be classed as drinkers: 89.3% of the former group were drinkers as compared to 66.4% of the latter ($x^2 = 85.89$; d.f. = 1; $p < 0.0001$). Although the figure also shows that those attending Protestant or non-denominational schools were more likely to drink than those pupils attending schools affiliated to the Roman Catholic Church, this difference was not statistically significant. Moreover, the slight differences between the two levels of socio-economic status were also found not to be statistically significant; i.e. they could have happened by chance.

However, as noted in Chapter 3, the Northern Irish study group was significantly older than the Scottish group and also contained a higher proportion of males. Because of this, it was postulated that the apparent 'country' effect could merely be due to the age and/or gender imbalance. Accordingly, a further analysis using forward stepwise logistic regression was undertaken in order to ascertain whether country, age or socio-economic status independently were likely to have affected levels of abstinence. Full details are presented in Table 4.I contained in Appendix B[1].

From the odds ratios presented in Table 4.I, it can be seen that country, gender, age, religious denomination and socio-economic status all exerted significant effects on whether or not a subject had consumed an alcoholic drink. Considering only the main effects, it can be seen that respondents from Northern Ireland and females were less likely to report having consumed a whole alcoholic drink. The odds ratios demonstrated that, when all other variables were set at their reference categories, respondents from Scotland were more likely than their Northern Irish peers to have ever consumed alcohol

[1] A guide to interpreting the results from logistic and log-linear models is included in Chapter 3. All output summary tables from logistic and log-linear models have been consigned to Appendix B.

(odds ratios 1:0.343). The odds of males being drinkers were almost four times those of females (odds ratios 0.282:1). The Table also shows that the odds of those respondents aged 14-16 years old ever having consumed an alcoholic drink were four and a half times those of the 11-12 year old group. However, as the model also contained significant interaction effects between several of the predictor variables, it is these which should represent the focus of the analysis. A full discussion of all significant interactions affecting drinking behaviour in this model is provided below.

The first major point of note is that denomination and socio-economic status of the schools were both involved as components of significant interaction effects. The country by denomination effect showed that for Scotland the odds of those from Roman Catholic and non-denominational schools drinking were not statistically different from each other (odds ratios 1:0.914). However, the difference was much more marked among those respondents from Northern Ireland[1] . Thus in Ulster only, the odds of those attending Protestant schools being drinkers were more than twice those of their Roman Catholic counterparts.

The three-way country by age by socio-economic status interaction indicated that the age differences observed amongst the Scottish independent school respondents (i.e. those from higher socio-economic status backgrounds) were much less marked among those from lower income school catchment areas[2]. Therefore, in Scotland, those aged 14-16 and attending independent schools were the most likely age/socio-economic status combination to be drinkers. However, this was not the case amongst those respondents from Northern Ireland. The interaction revealed that the age/socio-economic status effect

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[1] Odds ratios = 0.343:0.744**= 1:2.169
**Country(0.343)xDenomination(0.914)xCountry*Denom(2.375)=0.744

[2] Odds ratios were increased by a factor of 0.298 (Age*Ses); i.e. decreased by a factor of 1/0.298 = 3.356.

was actually reversed in Northern Ireland, with those aged 14-16 years old and attending secondary schools (i.e. those in less affluent catchment areas) in the Province being the most likely group ever to have consumed a whole alcoholic drink.

Gender and age also had a modifying influence on each other's main effects. The age by gender interaction indicated that, for *females*, the age effect was increased by a factor of 2.25, i.e. the odds of females aged 14-16 being drinkers were over ten times those of their younger counterparts. It was also shown that the gender effect displayed among the younger age group, i.e. odds ratios males: females being nearly four: one, was modified for the older age group to just over one and one half times[1]. Thus, it can be said that males aged 11-12 years old were much more likely than their female counterparts to have consumed a whole alcoholic drink. However, this difference between the sexes was not nearly so marked amongst those respondents aged 14-16 years old.

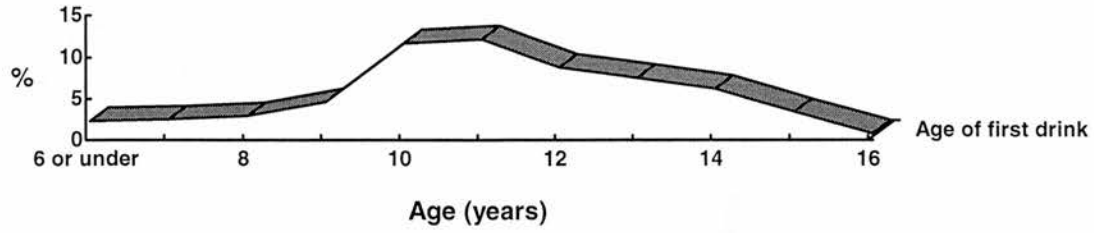
4.2 First experience of alcohol

4.2.1 Age of first drink

The next section of the survey instrument then focused on eliciting details of the drinkers' first occasion of alcohol consumption. Those respondents who had consumed alcohol were asked: "At what age did you have your first alcoholic drink?" This was a free response question. Answers ranged from 'six years old or less' to '16 years old', with a mean age of 11.16 years. The modal ages were 10-11 years old. Full details are provided in Figure 4.II.

[1] Age (4.604)xGender(0.282)xAge*Gender (2.246)=2.916; => Gender effect for 11-12 year olds = 1:0.282, and for 14-16 year olds = 4.604: 2.916 = 1.579: 1

Figure 4.II: Age of first alcoholic drink



Analysis of variance revealed significant differences relating to country, gender, age, denomination and socio-economic status. The boys tended to report having their first drink at an earlier age than the girls ($F_{1,650}$ = 15.812, $p < 0.001$): the mean age for females was a year higher than that for males (11.55 years old compared to 10.88 years old). The Northern Irish pupils in the study began experimenting with alcohol at an older age than their Scottish counterparts ($F_{1,650}$ = 12.323, $p < 0.001$). The older age group reported having consumed their first drink at a later stage than had the 11-12 year olds ($F_{1,650}$ = 311.620, $p < 0.001$).

However, in relation to these types of data, it is important to observe the caveat offered by Marsh, Dobbs and White (1986: 10) who stated that: 'The best statistical description of the data is that 'age of first proper drink', when it is recalled at all, is a figure that is almost randomly distributed backwards across the past three or four years'. Significantly, in the present survey, almost one quarter (24.6%) of drinkers could not remember when they had consumed their first drink of alcohol. Poor recall may also have been the reason for the older respondents claiming not to have tried alcohol until a later age.

4.2.2 Source of first alcoholic drink

In order to determine the source of alcohol on their first drinking occasion, respondents were asked: 'Who gave you this drink of alcohol?'. They were presented with a choice of possible sources and asked to tick one. The responses to this question are displayed in Table 4.II.

Table 4.II: Source of first alcoholic drink

Source		n	%
Parent		399	46.6
Brother or sister		35	4.1
Male friend, older		90	10.5
Female friend, older		121	14.1
Male friend, younger		73	8.5
Female friend, younger		66	7.7
Other		72	8.4
Total (drinkers only)		856	100%

As can be seen from Table 4.II, the subjects were most likely to have been introduced to alcohol by their parents. Nevertheless, a notable proportion reported obtaining their first alcoholic drink from friends. The 'other' category represented those respondents who had obtained their first drink from a source outside the list given; most commonly they had helped themselves to this drink, e.g. from a drinks cabinet. This pattern is confirmed by the data presented in Table 4.III (Appendix B), which represent the results of stepwise log-linear regression analysis. In order to obtain a parsimonious solution, the categories were collapsed into five classes: 'parents', 'other relatives', 'older friends', 'younger friends' and 'other sources'.

From the odds ratios presented in Table 4.III, it can be seen that significant differences emerged with reference to country, religious affiliation and socio-economic status of respondents. Those from Northern Ireland were significantly more likely than their Scottish peers to have obtained their first drink from a source other than parents. The likelihood of being given this first drink by relatives other than parents was increased by a factor of 2.125, and the odds of obtaining this drink from friends or other sources all increased more than five times.

Country and denomination interacted to significantly affect the predictors in all of the source categories. These interaction effects indicated that in Northern Ireland, Protestants were significantly less likely than Catholics to have obtained their first drink from sources other than their parents[1]. In other words, pupils attending Protestant schools in the Province were more likely than their Roman Catholic counterparts to have been given their first drink by their parents. Such differences were not as marked in Scotland. Furthermore, denomination on its own had a significant effect on two of the source categories, those of parents and older friends. The former indicated that the odds of respondents attending Protestant or non-denominational schools having been given their first alcoholic drink by parents were twice (2.085) those of their Roman Catholic peers. However, conversely the former were also more likely to have obtained their first alcoholic drink from older friends (odds ratio increased by 2.650).

Socio-economic status had an effect on three of the categories. Those from lower income backgrounds displayed odds ratios which indicated that they were markedly more likely than their middle class counterparts to have obtained their first drink from a relative other than their parent(s), and also more likely to have been given that drink by friends,

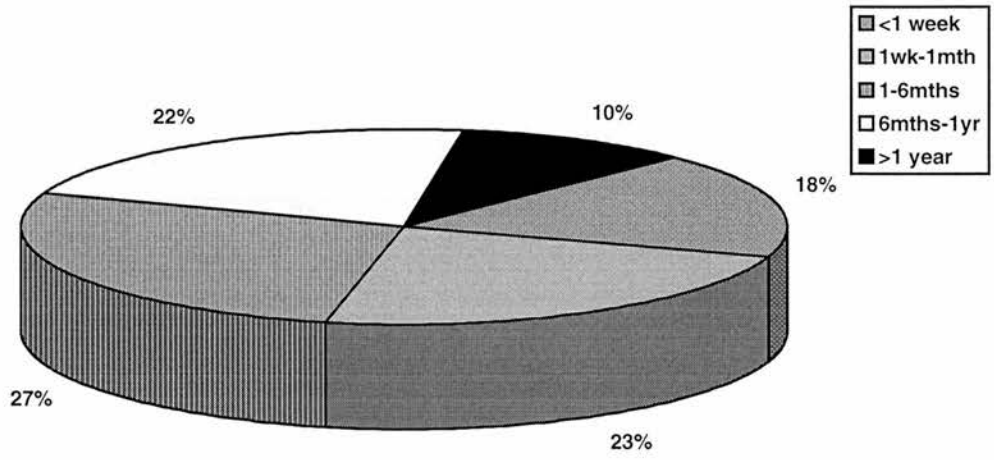
[1] Odds ratios (OR) 'Relatives' increased by a factor of 0.259; OR 'Younger friends' 0.284; OR 'Older friends' 0.405; OR 'Other source' 0.206.

either of the same age or younger (odds ratios increased by a factor of 1.908), or by older friends (odds ratios increased by a factor of 6.404). It is also observed, from the three-way interaction between denomination and socio-economic status and source, that this last effect was significantly less for working class Protestants than for working class Catholics. Interestingly, there were no significant differences observed between the two age groups nor between males and females.

4.2.3 Length of time until next alcoholic drink

Of those who went on to have another alcoholic drink (130 respondents, i.e. 11.1% of the original sample did not), for the majority (89.1%) their next drink was within a year. Details are illustrated by Figure 4.III.

Figure 4.III: Length of time until next alcoholic drink



Again these data were examined further using log-linear regression analysis to determine if the main predictors would have any effect on them. From Table 4.IV (Appendix B) it can be seen that those respondents from the Northern Irish study group were more likely

to have consumed an alcoholic drink within a week of their first beverage, and the odds of them having waited six months or more until this next drink were only half of those of their Scottish counterparts[1]. In fact, Northern Irish males were significantly less likely to have consumed their next drink over one year later than within the following week[2]. The significant interaction between country and gender indicated that this effect was less marked amongst the females[3]. Female pupils were also more likely than their male colleagues to have waited at least six months for their next drink. The only exception to this general effect was shown by the significant interaction between gender, denomination and the reference category. This revealed that females attending non-denominational or Protestant schools were more likely than their Roman Catholic counterparts to have drunk within a week of their first drink of alcohol (odds ratio increased by a factor of 1.523). Finally, with reference to age, members of the older age group were markedly less likely to have waited more than one week before consuming their next alcoholic drink.

4.3 Most recent drinking occasion

4.3.1 Recency

The next set of questions elicited details about respondents' most recent drinking occasion. Again experiences were revealed to be strongly influenced by the five main predictors. Turning firstly to recency of last drinking occasion, details are displayed in Table 4.V.

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[1] OR '6months-1year' increased by a factor of 0.538; OR '1year+' 0.427.
[2] Time5(1.411)xCo2*Time5(0.427) = 0.602. Compare to Co2*Time1 = 2.640
[3] 2.640x(Co2*Sex2*Time1)0.638 = 1.684

Table 4.V: Recency of last drinking occasion

Most recent drinking occasion		n	%
Within the last week		261	29.2
1-2 weeks ago		124	13.9
3-4 weeks ago		144	16.1
4 weeks-3 months ago		120	13.4
Over 3 months ago		246	27.5
Total (drinkers only)		895	100%

The data in Table 4.V present a bi-polar distribution, with one cluster of respondents having consumed alcohol in the week preceding the survey, and a second group having last imbibed alcohol over three months previously.

This information was entered into a log-linear regression model to examine the possible influence of the main predictor variables on recency of last drink. Table 4.VI (Appendix B) presents the results of this analysis. The odds ratios show that, with reference to country, Northern Irish respondents were less likely than those from Scotland to have most recently consumed alcohol over four weeks before the survey[1]. Therefore, they were more likely than Scottish respondents to have most recently consumed alcohol in the month preceding data collection.

Pupils aged 14-16 years old, from both countries, were less likely than the 11-12 year olds to have most recently consumed alcohol over two weeks before the survey. The significant country by age interaction meant that the older pupils in Northern Ireland constituted the group most likely to have consumed alcohol within the previous week[2]. The only other effects were caused by socio-economic status, with those from lower

[1] OR '4weeks-3months' increased by a factor of 0.602; OR '3months+' 0.631.
[2] Age2*Rec1xCo2*Rec1xCo2*Age2*Rec1=3.171x0.923x1.391=4.071.

income backgrounds being significantly less likely than their middle class peers to have last consumed alcohol 'between one and two weeks ago' or over four weeks ago. It was also shown that respondents aged 11-12 years old who attended schools in poorer catchment areas were markedly more likely than their middle class counterparts to have consumed alcohol in the previous seven days. However, the significant interaction effect between socio-economic status and age reversed this effect for the older respondents[1]: amongst pupils aged 14-16 years old, it was those from middle class backgrounds who were more likely to have been drinking within the week before the survey. Neither gender nor religious denomination had any significant effect on the model.

4.3.2 Location of most recent drinking occasion

Respondents were then asked about the location of their most recent drinking occasion. The results are displayed in Table 4.VII.

Table 4.VII: Location of most recent drinking occasion

Location		n	%
At home, with parents		220	24.5
At home, parents out		47	5.2
Home of other relatives		65	7.2
Friend's home		171	19.0
Public bar		60	6.7
Club or disco		50	5.6
Rave		28	3.1
Special Occasion e.g. wedding		80	8.9
Park/Wasteland/Street		118	13.1
Holiday		17	1.9
Restaurant		5	0.6
Other		38	3.2
Total (drinkers only)		899	100%

[1] Age2xSes2xAge2*Ses2 = 3.171x1.657x0.728=2.308

The most popular location was in the home under supervision from parents. Almost one quarter of drinkers had consumed alcohol most recently in this setting. Other popular contexts included drinking at a friend's home and drinking in outdoors locations, e.g. in parks and on waste ground or street corners. It was once again decided to examine the relative popularity of each of these locations taking the five demographic predictor variables into account. In order to produce more meaningful results, the locations given were collapsed into five categories: supervised at home, supervised away from home, unsupervised, public places, outside.

The results presented in Table 4.VIII (Appendix B) confirm that the most popular drinking location was at home with parents. Although significant numbers of respondents did report drinking in other contexts, the parental home was by far the most popular location. Two highly significant country effects were observed. The first of these indicated that the Northern Irish respondents were significantly more likely than their Scottish peers to have most recently consumed alcohol in a public place, i.e. in a bar, club or disco (odds ratio increased by a factor of 2.959). The second effect indicated that the odds of those from Northern Ireland drinking most recently in an outdoors location, e.g. in parks on wastelands or streets were nearly 40[1] times those of the Scottish respondents. This finding appears despite a local bylaw which was introduced in Northern Ireland in 1991 to prohibit the consumption of alcohol in such locations.

Country also interacted significantly with socio-economic status in two of the categories to show, firstly, that in Northern Ireland only, those from less affluent backgrounds were more likely than their middle class counterparts to have been drinking most recently away from the home and without supervision (odds ratio increased by a factor of 3.487).

[1] Although this very high odds ratio does indicate a clear effect, the extent of its magnitude could be due in part to the method of analysis employed.

The second significant effect indicated that, although in both countries pupils from schools situated in mainly working class locales were more likely than pupils attending schools in more affluent catchment areas to have most recently consumed alcohol outdoors[1], this effect was markedly stronger in Northern Ireland[2]. Thus it can be said that working class Northern Irish respondents were the most likely country/socio-economic status combination to have reported drinking most recently in an outside location.

Age again exerted a significant effect on all the categories. Those in the older age group were more likely than the 11-12 year olds to have most recently been drinking outside the parental home and in unsupervised conditions. In fact, the extremely strong effect between age and location 3 (drinking away from home without supervision) means that the older respondents were more likely to have been drinking away from home and without supervision than in any other context. Furthermore, older working class respondents were even less likely than their younger peers to have most recently consumed alcohol at home with their parents.

Those respondents attending Protestant or non-denominational schools were more likely than those attending Roman Catholic schools to have most recently consumed alcohol at home, with their parents. On the other hand, religious affiliation, along with socio-economic status also affected the outdoors location category. This interaction effect showed that although middle class Protestants were more likely than Catholics to drink in an outdoors location (odds ratio increased by a factor of 10.044), the effect was reversed for working class Protestants (odds ration increased by a factor of 0.068): they were less likely than their Roman Catholic counterparts to have most recently consumed

[1] Interaction effect SES2*LOCN5 increased odds ratio by a factor of 57.226.
[2] Odds ratio further increased by a factor of 5.485.

alcohol outdoors. Interestingly, there were no significant gender differences in relation to location of last drinking occasion.

4.3.3. Company at most recent drinking occasion

With reference to company on last drinking occasion, the most popular categories were parents and friends. Full details are presented in Table 4.IX. As expected, the answers were strongly linked to the location of the respondents' most recent occasion.

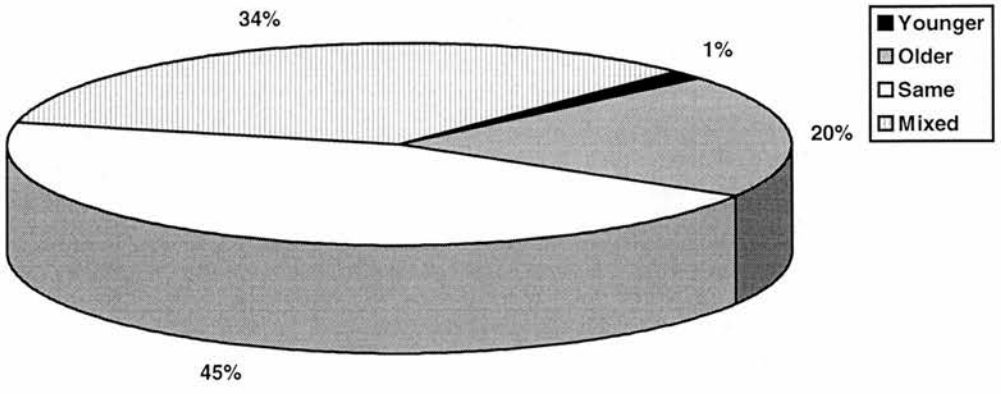
Table 4.IX: Company during most recent drinking occasion

Companions		n	%
Girlfriend or boyfriend		35	3.9
Friends of same sex		212	23.7
Friends of opposite sex		19	2.1
Friends of both sexes		233	26.1
Parents or step parents		220	24.3
Brother or sister		17	1.9
Group of relatives		121	13.5
On own		24	2.7
Other		16	1.8
Total (drinkers only)		897	100%

These categories were collapsed into two classes and the revised variable was entered into a logistic regression model. Table 4.X (Appendix B) presents the relative odds of drinking most recently in the company of friends or relatives, as compared to drinking in the company of parents. It is to be noted that those respondents from Northern Ireland,

females and the 14-16 year olds were all more likely to having most recently consumed alcohol in the company of people other than parents, and with peers[1].

Figure 4.IV: Age of friends at most recent drinking occasion



As can be observed from Figure 4.IV above, of those who had consumed their last alcoholic drink with friends, the majority reported that the group had mainly been the same age as them, or of mixed ages. Log-linear regression analysis revealed that those respondents from Northern Ireland were more likely than their Scottish counterparts to report that their drinking companions were composed of a mixture of ages (odds ratio increased by a factor of 2.071), whereas the 14-16 year olds were more likely than the younger age group to prefer to drink with a group of their own age or with a group of mainly older people. This is shown by the odds ratios presented in Table 4.XI (Appendix B).

[1] OR friends/relatives: parents, Scotland: Northern Ireland = 1: 1.587; OR Males: Females = 1: 1.511; OR younger: older = 1: 6.110.

4.3.4 Quantity of alcohol consumed on most recent drinking occasion

Respondents were asked to record details of the amounts of alcohol they had consumed on their last drinking occasion. For ease of completion, this was a free response question: the respondents were asked to follow the style of an example in the questionnaire. This format proved to be 'user friendly' to the pupils and allowed more accurate calculation of alcohol consumption. These details were converted into units by the researcher. A single unit contains approximately 7.9 grammes or 1 centilitre of absolute alcohol and is equivalent to half a pint of ordinary strength beer, lager or cider, or to a single public house measure of spirits in Scotland (in Northern Ireland a unit is equivalent to two thirds of a single measure of spirits) or a glass of wine. It should be noted that a United Kingdom unit is markedly smaller than a 'standard drink' in some other countries, such as the USA.

The majority of respondents reported drinking relatively modest quantities. This can be seen from the data in Table 4.XII.

Table 4.XII: Units of alcohol consumed on most recent drinking occasion

Units of alcohol		1- 2	3 - 4	5 - 6	7 - 8	9 - 10	11+	Total (drinkers only)
n		421	144	78	74	46	129	892
%		47.2	16.1	8.7	8.3	5.2	14.5	100%

This was particularly true of the younger age group, amongst whom 63.3% males and 82.7% females had consumed either one or two units on their last drinking occasion. However, significant numbers of both sexes did report having consumed 11 or more units of alcohol on their last drinking occasion. This rose from 3.7% of younger males and 1.3% of younger females to 28.6% of older males and 17.6% of older females. It is noted that at least some individuals may have been exaggerating.

In line with the aims of this study, analyses were undertaken to determine the demographic predictors of heavier drinking. These involved the use of two separate dependence techniques. The first of these employed the procedures adopted by Plant and Foster (1991) and Plant et al. (1990). Accordingly, details of last occasion's alcohol consumption were used to classify respondents as 'light' and 'heavy' drinkers. Male 'heavy drinkers' where defined as those who had consumed 11 or more units on their last drinking occasion; females 8 or more units. As before, abstainers were those who had never had a whole alcoholic drink. Log-linear regression was carried out on these data in order to ascertain if country, age, religious denomination or socio-economic status were likely to have affected consumption levels. Separate models were constructed for males and females. Full details are presented in Table 4.XIII (Appendix B).

From the odds ratios presented in Table 4.XIII, it can be seen that country, age, denomination and socio-economic status all exerted a significant effect on whether or not subjects of both sexes abstained from alcohol. Respondents from Northern Ireland, those from the younger age group and those attending non-denominational schools in Scotland were all more likely to be abstainers[1]. Amongst all female respondents, those from less affluent areas were less likely to be drinkers (odds ratio of abstaining increased

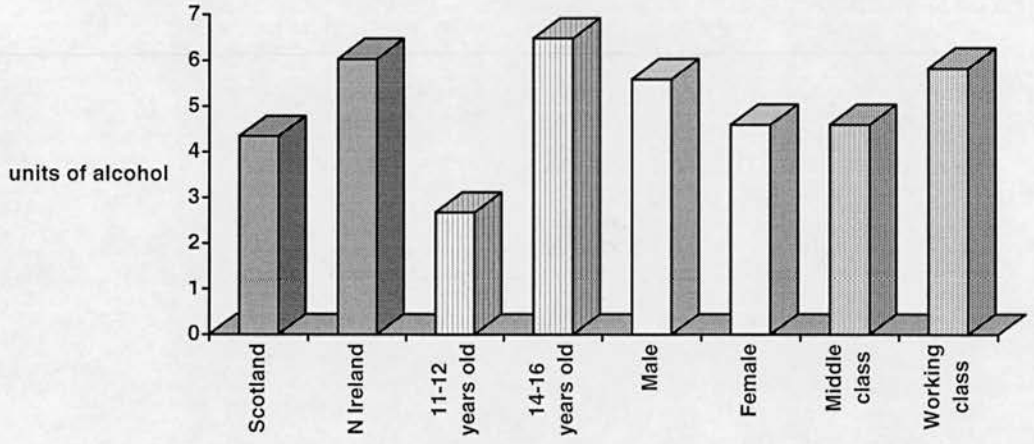
[1] OR Northern Irish males increased by 1.687; females 1.976. OR older males increased by 0.230; females 0.315. OR Protestant males increased by 1.745; females 2.115.

by a factor of 1.914) than those from middle class school catchment areas. This effect was also present for males from working class areas, particularly those living in Northern Ireland - they were even more likely than their Scottish counterparts to abstain (odds ratio of abstaining increased by a factor of 1.828). Furthermore, this effect was even more marked amongst working class males attending Roman Catholic schools in Northern Ireland than amongst their Protestant counterparts (denomination - country - socio-economic status interaction odds ratio increased by a factor of 0.223). The between-country differences related to religious denomination were also more marked for Roman Catholic females than for their counterparts attending Protestant or non-denominational schools (denomination - country interaction odds ratio increased by a factor of 0.477). Thus in Northern Ireland, females attending Roman Catholic schools and males attending Roman Catholic schools in less affluent areas were more likely than their Protestant colleagues to be classed as abstainers.

The ambivalent pattern (discussed in Chapter 1) of Northern Irish drinking was also supported by these data: males and females from the Province were significantly more likely than their Scottish counterparts to be classed as heavy drinkers (odds ratio for males increased by a factor of 1.670; for females 2.044). While working class males in both countries were significantly more likely than their wealthier peers to fall into the light-moderate drinking category, in Northern Ireland only, the females were more likely to be heavier drinkers (interaction between country and socio-economic status increased the odds ratio of heavy drinking as opposed to abstaining by a factor of 3.267). Finally, as expected from other surveys of youthful drinking, the relative likelihood of being a heavy drinker, in both countries, was markedly increased for the older age group.

The second procedure adopted to determine predictors of heavier drinking involved drinkers only. Analysis of variance (ANOVA) conducted on the units of alcohol[1] consumed on the most recent drinking occasion replicated these patterns. Country, age, gender and socio-economic status were all shown to exert main effects on the mean amount of alcohol consumed. These differences are elaborated in Figure 4.V below.

Figure 4.V: Effects of demographic variables on mean amount of alcohol consumed on most recent drinking occasion



From Figure 4.V, it can clearly be seen that the older respondents exhibited a significantly higher mean level of alcohol consumption than did the 11-12 year olds[2]. The mean level for males was also higher than that for females[3]. Pupils attending schools in less affluent catchment areas displayed a higher mean than their wealthier counterparts[4], and notably, once again those pupils residing in Northern Ireland were heavier consumers than their Scottish peers[5]. An additional, interactive effect indicated that these country differences were not merely an artefact of gender or age differences.

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[1] As the distribution of quantity of alcohol consumed was positively skewed, it was subjected to a logarithmic transformation to attain an approximately normal distribution - a necessary criterion for the ANOVA procedure.

[2] Mean units: 11-12 year olds = 2.68; 14-16 year olds 7.17. $F_{1,833}=240.02$; $p<0.001$

[3] Mean units: males = 5.59; females = 4.60. $F_{1,833}=21.54$; $p<0.001$

[4] Mean units: higher socio-economic status = 4.60; lower socio-economic status = 4.82. $F_{1,833}=20.68$; $p<0.001$

[5] Mean units: Scotland = 4.35; Northern Ireland = 6.03. $F_{1,833}=13.397$; $p<0.001$

As is shown in Table 4.XIV below, for both age groups, and for both genders, mean quantities of alcohol consumed at the most recent drinking occasion were higher for Northern Irish respondents ($F_{1,858}$=7.830; p<0.01).

Table 4.XIV: Mean quantities of alcohol consumed, by country, age and gender.

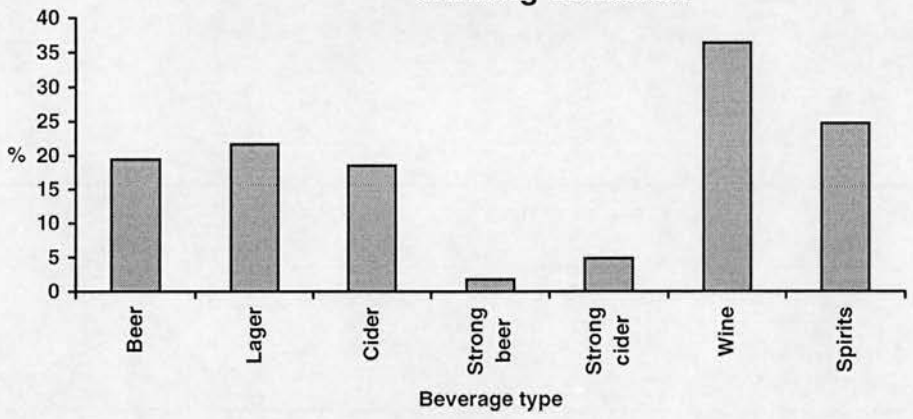
		Scotland		Northern Ireland	
		Male	Female	Male	Female
11-12 years old		2.25	1.87	4.05	2.09
14-16 years old		7.54	5.81	8.17	6.90

4.3.5 Type of alcohol consumed on most recent drinking occasion

As has been stated earlier, the question eliciting details of the respondent's most recent drinking occasion was presented in an open format. This technique had the advantage that respondents need not know the type of beverage they were consuming (e.g. beer, spirits, cider etc.), and enabled respondents to complete the question using brand names. Thus for example a person could have recorded that they consumed a can of 'Stella', this being Stella Artois, a Belgian lager with an alcohol by volume content of 5.2%. It was hoped that this approach would reduce the incidence of missing replies. Nevertheless, 48 respondents who gave other details of their most recent drinking occasion (e.g. location and company and quantity) did not fill in beverage type. This may suggest that some young people may be unaware of the types (and indeed strengths) of the alcoholic beverages they are consuming. In coding the replies, the beverages were classified into seven categories: beer, lager, cider, strong beer/lager, strong cider, wine and spirits. For

the purposes of this study, 'strong' beers, lagers and ciders were considered to be those with an alcohol by volume content of 5% or higher ('normal' strength beers/lagers and ciders have alcohol by volume contents of between 3.4% and 4%).

Figure 4.VI: Type of alcohol consumed on most recent drinking occasion



As can be seen from Figure 4.VI, the most frequently mentioned drink was wine (consumed by 36.3% of respondents), followed by spirits (consumed by 24.6% of respondents). The most popular spirits were vodka, rum and whisky/whiskey, both in their 'pure' forms and as constituents of 'cocktail' drinks. A more detailed analysis of beverage types is presented in Table 4.XV (Appendix B). This table presents the summary of results from logistic regression analyses undertaken for each beverage type in turn. The odds ratios therefore represent the relative likelihood of consuming that particular drink on the most recent drinking occasion, versus not having done so.

An examination of the odds ratios reveals that lager was the most popular drink amongst the males and wine for the females. (the odds ratios in Table 4.XV show that females were significantly less likely to have consumed lager on their last drinking occasion and markedly more likely to have been drinking wine). Beer was also favoured as a more

masculine drink in Scotland. The country/gender interaction indicated that in Northern Ireland females were just as likely as males to have consumed beer on their most recent drinking occasion. Moreover, the odds for females in both countries imbibing spirits on this occasion were twice those for males. It is noted that cider was a neutral drink with respect to gender preferences.

Wine was the most frequently mentioned drink amongst the 11-12 year olds. This could possibly reflect the finding that they were most likely to have had their last drink at home with parents. Spirits were the most popular type of alcoholic drink amongst the 14-16 year olds, with 34.5% of drinkers in that age group saying that they had consumed at least one type of spirit on their last drinking occasion. Interestingly, beer appeared to be a more popular beverage choice among the younger respondents. However, lager (odds ratio older: younger = 2.632:1), cider (odds ratio = 6.024:1) and strong beer (odds ratio = 12.346:1) were markedly more popular among the older age group.

In addition to the effect on beer, some further national differences in taste were also apparent, with Scottish pupils preferring wine and Northern Irish pupils, lager (odds ratio Northern Ireland:Scotland = 3.817:1), cider (odds ratio = 3.546:1) and spirits (odds ratio = 2.645:1). The significant country by age interaction effects for lager and cider show that the differences in preferences for these drinks associated with age were not as great in Northern Ireland as in Scotland[1]. Another interaction effect, between country and denomination showed that, although Northern Irish Catholics were less likely than their Scottish counterparts to have consumed strong cider on their last drinking occasion, the reverse was true for those from Protestant communities. Thus, Northern Irish Protestants

[1] For example, country-age interaction odds ratio for cider = 0.235.

were the most likely country/denomination combination to have been drinking strong ciders at the most recent drinking occasion[1].

A difference in preferences between the denominations was also observed for spirits; in both countries, Roman Catholics were more likely to have consumed spirits on their most recent drinking occasion. It was also shown that respondents from middle class backgrounds were more likely to have drunk spirits. Furthermore, an interaction between denomination and socio-economic status for spirits consumption indicated that Roman Catholic middle class respondents constituted the group most likely to have drunk spirits; those from less affluent Protestant or non-denominational schools being least likely to have done so.

Some other interesting differences with respect to socio-economic status were noted. Those respondents from less affluent backgrounds were significantly more likely than their wealthier counterparts to have consumed beer, lager, cider and particularly strong cider. On the other hand, as shown above, they were markedly less likely to have most recently been drinking wine or spirits. Interactions with denomination implied that the effects observed in connection with cider (both 'normal' and 'strong')were reversed for Protestants. Thus it was the poorer Roman Catholics who expressed the preference for cider of either regular or enhanced strength.

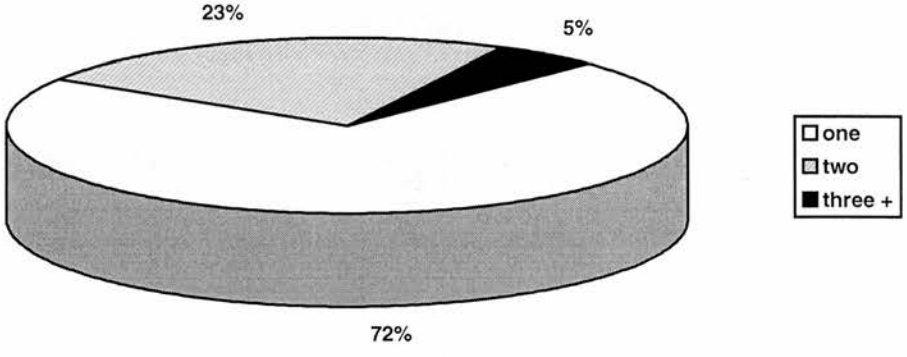
[1] Odds ratio = CO2xDENOM2xCO2*DENOM2 = 0.293x0.646x5.988 = 1.133.

4.3.6 Combinations of beverages consumed at most recent drinking occasion

As can be seen from Figure 4.VI above, the percentages did not add up to one hundred. Thus it follows that at least some of the respondents must have consumed more than one beverage type during their most recent drinking occasion. The open format in which these data were collected allowed for further analysis of this kind.

Recoding the data to determine the number of beverage types consumed by each respondent on their most recent drinking occasion revealed that the majority of drinkers (71.4%) had consumed only one type of beverage. As can be seen from Figure 4.VII below, 23.4% of drinkers had mixed two types of alcoholic drink, while only 5.1% (i.e. 43 individuals) had combined three or more beverage types.

Figure 4.VII: Number of beverage types consumed on most recent drinking occasion

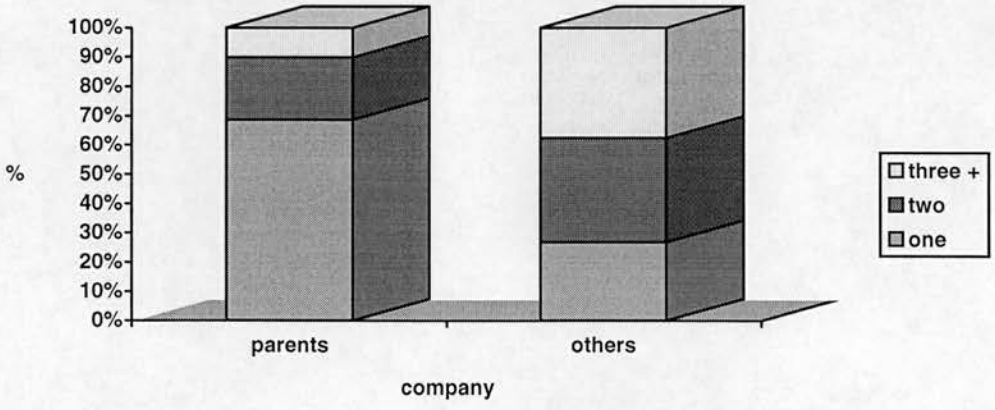


One of the concerns about adolescent drinking is that either through ignorance or a desire to experiment, or even simple availability, adolescents are more prone than adults to mixing their drinks. Thus it is interesting that the majority of young drinkers in this survey, on their most recent drinking occasion at least, consumed only one type of alcoholic drink. However, it should also be noted that when number of beverage types

was correlated with units of alcohol consumed, a moderately strong positive association of Pearson's r=0.49 ($p<0.001$) was observed. This means that those who mixed their drinks were also more likely to have consumed larger amounts of alcohol. This association was stronger for females than for males (females: Pearson's r=0.55; males: Pearson's r=0.42; $p<0.001$).

Other interesting observations related to location and company on last drinking occasion. As regards location, those respondents consuming more than one type of alcoholic drink were more likely than single beverage consumers to have mostly recently been drinking either in public places (public houses, clubs, discos) or without supervision (e.g. in their own or friends' homes). A stark division emerged when company was examined: as can be seen from Figure 4.VIII, those consuming only one beverage type were significantly ($x^2=47.00$; d.f.=2; $p<0.001$) more likely to have most recently been drinking in the company of parents, rather than friends.

Figure 4.VIII: Details of number of beverage types and company on most recent drinking occasion



It was also possible to classify these data, not only by the *number* of types of alcohol consumed but also qualitatively. This was done by clustering[1] the respondents according

[1] Further details relating to the procedure of cluster analysis are outlined in Chapter 3.

to the information they had given about beverage types. Hierarchical cluster analysis on repeated random samples of 10% of the respondents to that question revealed that four clusters would provide the optimum solution. K-means cluster analysis was then conducted on all drinkers, with respect to beverage choices. The membership of the resulting clusters is detailed in Table 4.XVI

Table 4.XVI: Membership of beverage clusters

Cluster Number		n	% of respondents
1		199	22.5
2		255	28.8
3		397	44.9
4		33	3.7
Total (drinkers only)		884	100%

In order to differentiate between the various groups their characteristics were examined. It was revealed that those respondents in Cluster 1 preferred to drink cider. Those in Cluster 2 showed a strong preference for lager and spirits. Those in Cluster 3, however, drunk mainly wine, and beer to a lesser extent, while the small group comprising Cluster 4 showed an overwhelming preference for strong cider and strong beers and lager. This final group also consumed spirits to a lesser extent.

Figures 4.IXa and 4.IXb below show the comparisons of the types of alcoholic beverage consumed at the most recent occasion and the quantity (in units) of alcohol consumed. Revised classifications of alcohol consumption were employed for this analysis. Each gender was categorised into 'light', 'moderate' and 'heavy' consumption levels. As can be seen for both males and females, wine drinkers were most likely to belong to the

'light' (1-2 units) drinking categories. Lager and spirits and cider were fairly evenly split across the consumption categories, although the cider drinkers appeared to favour the 'moderate' (3-7 units for females; 3-10 for males) category of consumption. Those respondents whose favoured beverage types were strong ciders, beers or lagers were most likely to be found in the 'heavy' (8 or more units for females; 11 or more for males) consumption categories[1].

Figure 4.IXa: Choice of beverage compared to amount of alcohol consumed on most recent drinking occasion - males

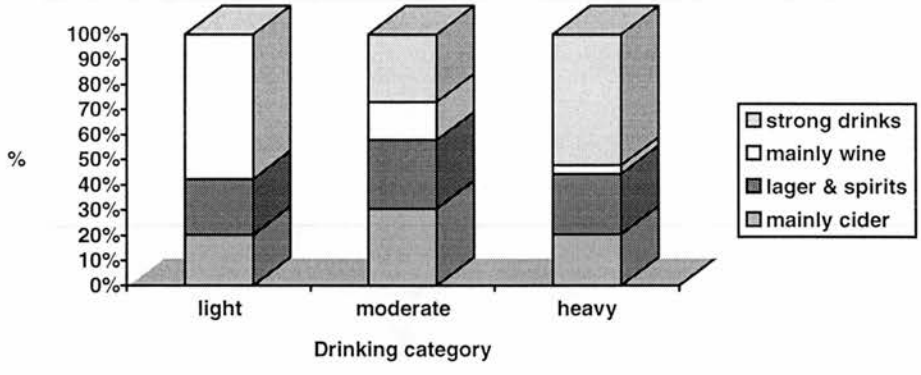
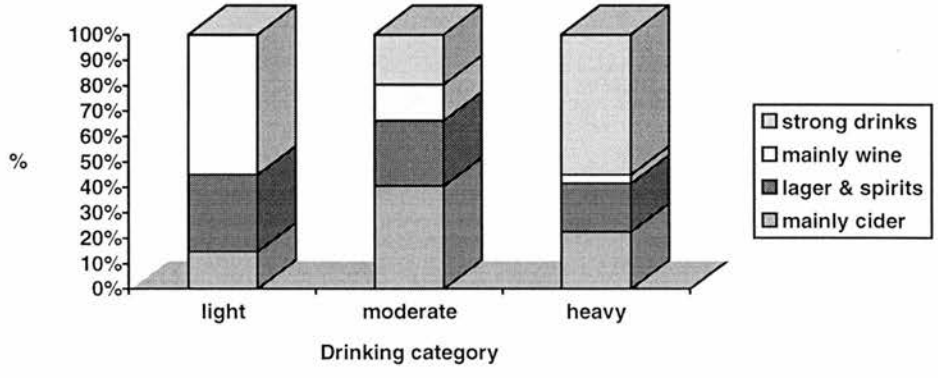


Figure 4.IXb: Choice of beverage compared to amount of alcohol consumed on most recent drinking occasion - females



Thus, it has been shown that there was an association between mixing drinks and increased alcohol consumption: those who had imbibed more than one type of alcoholic

[1] This definition of 'heavy' drinkers is identical to the one employed in Section 4.3.4.

beverage on their most recent drinking occasion were more likely to have consumed larger amounts of alcohol. In addition, it has also been demonstrated that those respondents who favoured strong beers, lagers, ciders and spirits were more likely to be classed as heavier drinkers than those drinking wine or 'normal' strength beers or lagers.

4.4 LARGEST QUANTITY OF ALCOHOL CONSUMED ON ONE OCCASION

In addition to asking the respondents about their most recent drinking occasion, it was deemed prudent to obtain information about their use of alcohol from a slightly different approach. The advantages of such a technique were twofold: firstly they allowed the researcher to examine whether most recent occasion's alcohol consumption was atypical, and secondly, by measuring the frequency of this consumption, the data provided additional information on heavier consumers of alcohol. Table 4.XVII, below, displays the pattern of responses to this question.

Table 4.XVII: Largest quantity of alcohol ever consumed on a single occasion

Units of alcohol		1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21+
n		303	130	59	57	27	41	19	39	21	16	106
%		37.0	15.9	7.2	7.0	3.3	5.0	2.3	4.8	2.6	2.0	13.0

As can be seen from this Table, although over one third of respondents reported having only ever consumed a maximum of one or two units of alcohol, significant numbers of individuals claimed to have consumed substantially large amounts of alcohol on at least

one drinking occasion. In fact over 100 respondents reporting drinking 21 or more units on one occasion. When these answers were compared to the amount of alcohol consumed on most recent drinking occasion, an extremely strong association (Pearson's $r = 0.80$; $p<0.001$) was observed, indicating that those who were heavier drinkers on their most recent drinking occasion were also heavier drinkers when considered under this measure. Therefore, this information lent support to consistency of information between questions, and thus the reliability of responses in relation to alcohol consumption.

In order to obtain further information about the distribution of answers, the 'raw' data were subjected to an analysis of variance procedure[1]. The patterns of heavier alcohol consumption being associated with country, age, gender and socio-economic status were also reflected in the answers to the question about the greatest amount of alcohol ever consumed on one occasion. Analysis of variance revealed that respondents from Northern Ireland and those attending schools in less affluent areas displayed higher mean consumption levels than did the Scottish respondents or those attending grammar or independent schools[2]. The mean number of units consumed by the 14-16 year olds (12.99) was almost four times as great as that for the younger age group (3.36)[3]. Males, predictably, also reported significantly higher consumption levels than females[4].

In addition to these main effects, country, age, socio-economic status and religious affiliation also interacted to significantly affect mean consumption levels ($F=8.68$; $p<0.01$). Examination of these effects revealed that older respondents, who were living

[1] As with the analysis of consumption on most recent drinking occasion (Section 4.3.4), these data were subjected to transformation to attain a normalised distribution.

[2] Mean units: Scotland =7.56; Northern Ireland =9.71. $F_{1,785}=6.21$; $p<0.05$: Higher socio-economic status = 7.95; Lower socio-economic status = 9.47. $F_{1,785}=14.39$; $p<0.001$

[3] $F_{1,785}=366.74$; $p<0.001$

[4] Mean units: Males = 9.36; Females = 7.71. $F_{1,785}=28.82$; $p<0.001$

in Northern Ireland and who attended Protestant secondary schools, reported the highest mean level - of 18.5 units of alcohol. Thus, it can be seen that the demographic predictors of heavier drinking according to this measure were virtually synonymous with those significantly affecting consumption of alcohol on most recent drinking occasion.

When asked how often they had consumed this amount of alcohol, 47% of respondents replied once only, 43.4% 2-5 times, 5.9% 6-10 times and 3.7% more than 10 times. However, it was clear that in a substantial number of cases, this reported amount of alcohol had been consumed on successive occasions, with 42 respondents reporting that they had consumed 21+ units of alcohol between two and five times. It is again noted that at least some of the individuals may have been exaggerating.

The final two categories of this variable were collapsed into one capturing those respondents who had consumed the stated amount of alcohol on six or more occasions, and the resulting trichotomous variable was entered into a log-linear regression model, along with the demographic predictor variables. The results of this model are presented in Table 4.XVIII (Appendix B). From the odds ratios displayed in this table, it can be seen that in Scotland *only*, those in the older age group were less likely than the 11-12 year olds to reply that they had consumed the stated amount of alcohol only on a single occasion. Females, particularly those aged 11-12 and those attending Roman Catholic schools, were also less likely to report that the stated amount was consumed on an isolated occasion (odds ratio of consuming only once was increased by a factor of 0.555). This gender effect was more marked amongst those pupils in Northern Ireland than among their Scottish counterparts (country-gender interaction odds ratio increased by a factor of 0.647); i.e. Northern Irish males were the most likely group to have consumed the stated amount of alcohol on one occasion only.

With reference to socio-economic status, those respondents from less affluent areas were more likely to have consumed this high amount of alcohol on successive occasions (i.e. two or more). This effect was particularly strong for younger individuals. Religious affiliation also exerted a significant effect on the model. Wealthier respondents attending Protestant or non-denominational schools were more likely to have consumed the stated amount of alcohol on one occasion. It was shown that this effect was stronger in Northern Ireland than in Scotland[1].

4.5 Drinking Diary

The final type of information collected about each respondent's consumption of alcohol was in the form of a drinking diary. This required those respondents who had consumed alcohol in the week preceding the survey to retrospectively record what they had drunk during that week. This technique is fairly standard practice in surveys of alcohol use (see, for example, Marsh et al 1986; Goddard 1996). In addition to providing information in its own right, this approach allowed for an important check to be made regarding the reliability of the data set relating to alcohol consumption.

The collection of diary information enabled a comparison to be made between the number of respondents who when asked about their most recent drinking occasion, claimed to have consumed alcohol most recently within the last week, and those who then proceeded to complete the drinking diary for that week. Overall, 261 respondents (22.3% of the entire study group, and 30.2% of drinkers) had completed the drinking diary. This corresponded exactly to the number of respondents who indicated earlier in the questionnaire that they had last consumed alcohol within the previous week.

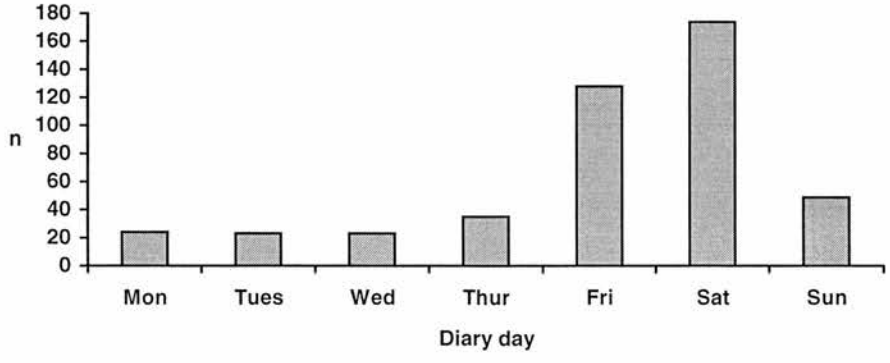
[1] i.e. OR 'Once' for Northern Irish Protestants increased by a factor of 0.658, and for Northern Irish Protestants attending lower ses schools, 0.602.

However, closer examination of individual respondent numbers revealed that two respondents who reported most recently consuming alcohol 'one-two weeks ago' had completed the diary, whereas two who had been drinking in the week preceding the survey did not complete the diary. Nevertheless, compared to Goddard's (1996) survey of teenage drinkers in Scotland, England and Wales, this represents a very high rate of reliability. She found that between 83% and 87% of those saying they usually drank once a week also said that they had most recently consumed alcohol in the week before the survey.

4.5.1 Diary drinking days

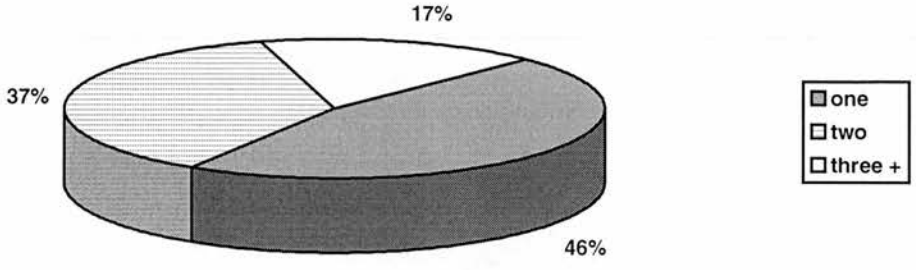
As can be seen from Figure 4.X below, Friday and Saturday were by far the most popular days for drinking, with 128 respondents completing the diary for Friday, and 174 for Saturday. As these numbers add up to more than 261, the implication is that some respondents did imbibe alcohol on more than one day. In fact there were a total of 456 drinking occasions recorded in the diary, giving a crude average of 1.75 (456/261) drinking days per diary respondent.

Figure 4.X: Number of drinkers per diary day



A closer examination of the number of drinking days within the last week revealed the following pattern. As shown by Figure 4.XI below, almost half of the diary drinkers (121 respondents) claimed to have been drinking on only one of the previous seven days. Ninety-six pupils had been drinking on two days out of the last seven, leaving only 44 who had consumed alcohol on three or more days.

Figure 4.XI: Number of drinking days in diary week



In order to ascertain whether diary drinkers were any different from those drinkers who did not consume alcohol so recently, and to determine if there was a difference between those who consumed alcohol on one day only or two or more, a measure of drinker type was constructed. Details of this variable are given in Table 4.XIX below.

Table 4.XIX: Details of type of drinker

Drinker Type		n	%
Non diary drinker		634	70.8
Diary drinker, one day		121	13.5
Diary drinker, two or more days		140	15.6
Total (drinkers only)		895	100%

As can be seen from the results of the log-linear regression analysis displayed in Table 4.XX (Appendix B), country, mediated by denomination and socio-economic status effects, significantly affected the relative likelihood of being a particular drinking type. In both countries, those respondents attending Protestant or non-denominational schools situated in more affluent areas were markedly more likely to be diary drinkers - either consuming alcohol on one or more days - than their less wealthy peers[1]. However, this effect was reversed for pupils of Roman Catholic schools: in this case it was those from predominantly working class areas who were more likely to have been diary drinkers (interaction odds ratios increased by 0.264 and 0.289).

The country- denomination interaction effect showed that the difference between the two denominations was not as great in Northern Ireland as in Scotland. The significant socio-economic by country interaction meant that the main effects observed due to socio-economic status were even more marked in Northern Ireland than in Scotland, i.e. working class pupils in the Province were even more likely than their Scottish counterparts to have consumed alcohol on one or more days within the week preceding the survey (country-socio-economic status interaction odds ratios increased by 4.428 and 7.721).

It was also shown that younger females were less likely than males to be diary drinkers. However, this difference was much less marked between males and females in the 14-16 year old age group. Finally, age of respondent also had a pronounced effect on the likelihood of being a diary drinker who drank on two or more days: the odds of the older age group being diary drinkers who consumed alcohol on more than one day were almost five times those of the 11-12 year olds.

[1] OR 'Diary drinker-one day' increased by a factor of 6.092; OR 'Diary drinker-more than one day, 3.414.

The effects observed in this model do support the findings from the logistic analysis of recency of last drinking occasion (Table 4.VI), where it was shown that in particular, age and socio-economic status significantly affected the likelihood of the recency of alcohol consumption. These findings can now be extended to say that older respondents, those from working-class areas (particularly in Northern Ireland) and those attending Protestant and non-denominational schools in middle class areas, or Roman Catholic schools in predominantly working class locales, were all more likely not only to have consumed alcohol in the week preceding the survey, but to have consumed it on more than one day in that week.

4.5.2 Diary week - quantity of alcohol consumed

As with the question pertaining to alcohol consumed on the most recent drinking occasion, the diary was presented to the respondents in an open format: they were invited to fill in beside each day what they had consumed. The quantities of alcohol consumed on each diary day were enumerated as before. The spread of consumption is interesting and is displayed by Table 4.XXI below:

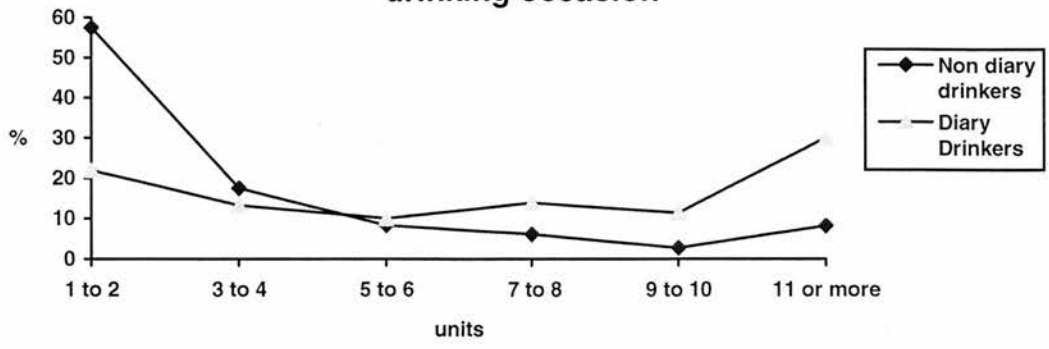
Table 4.XXI: Details of amounts of alcohol consumed per diary day

Units	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Total
1-2	8	13	10	11	17	40	34	133
3-4	4	6	3	9	23	25	8	78
5-6	2	2	3	7	18	21	2	55
7-8	3	1		3	20	23	2	52
9-10	5		1		13	19	2	40
11 or more	2	1	6	5	37	46	1	98
Total	24	23	23	35	128	174	49	456

The figures in Table 4.XXI show that Friday and Saturday were the days favoured most for heavy drinking: 28.9% of Friday's drinkers consumed 11 or more units on that day; the corresponding figure for Saturday was 26.4%. This can be compared to the other days, where 8%, or fewer, drinkers consumed such large amounts of alcohol. Sunday was the lightest day in terms of consumption with over two-thirds (69.4%) of Sunday drinkers consuming only one or two units of alcohol. It must also be noted that, overall, nearly 30% of the week's drinking occasions involved the consumption of one or two units of alcohol, although one fifth of occasions were characterised by heavy consumption of 11 or more units.

A preliminary consideration of the distribution of these figures compared to the distribution of the amount of alcohol consumed on the last drinking occasion by all drinkers indicates that the diary drinkers were heavier consumers of alcohol. For example, 29.2% of diary drinking occasions involved the consumption of 1-2 units of alcohol, whereas on 21.6% of occasions 11 or more units were imbibed. As is shown in Section 4.3.4, the responses from all drinkers to the question pertaining to their most recent drinking occasion revealed that 47.2% had consumed between 1 and 2 units of alcohol, and only 14.5% fell into the category of consuming 11 or more units. However, it is acknowledged that this comparison does not use comparable data; therefore it was deemed sensible to compare the distributions of quantities of alcohol consumed on most recent drinking occasion for both diary and non-diary drinkers. The profiles are displayed in Figure 4.XII below.

Figure 4.XII: Units of alcohol consumed on most recent drinking occasion



As can clearly be seen from Figure 4.XII, the profiles of the two groups were significantly different (x^2=152.52; d.f.=5; p<0.001). In order to determine how being a diary drinker affected the levels of alcohol consumed, this variable was entered into the analysis of variance previously carried out on the consumption data (see Section 4.3.4). Whether or not a respondent had consumed alcohol in the week previous to the survey proved to be a factor which significantly influenced the mean amount of alcohol consumed on the most recent drinking occasion: diary drinkers recorded a mean of 8.44 units on this occasion, compared to 3.84 units for those drinkers who had not imbibed as recently ($F_{1,833}$= 17.97; p< 0.001). In fact, the strength of the effect of this variable was such that it knocked out socio-economic status, gender, and even country as significant main effects on the mean.

Nevertheless, age, gender and socio-economic status did interact together with diary drinking to affect mean consumption levels ($F_{1,833}$=5.55; p<0.05). It was shown that the heaviest drinkers were males, aged 14-16 from a less affluent background who had consumed alcohol in the week preceding the survey. Furthermore, although denomination had not previously been shown to significantly affect the amount of alcohol consumed, in this revised model, it did significantly interact with age, country

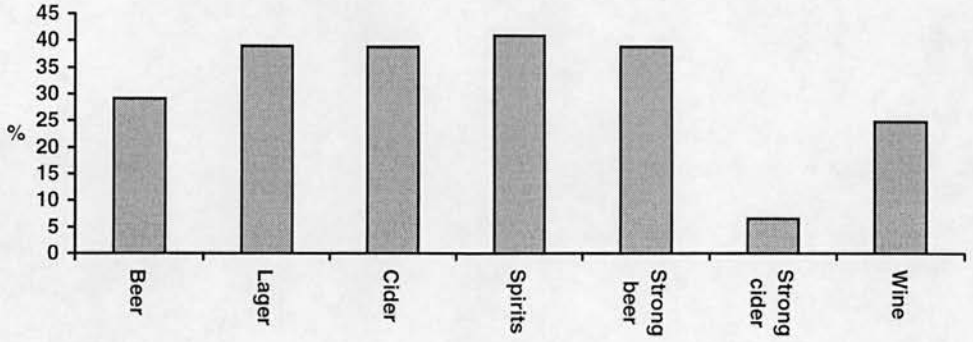
and socio-economic status ($F_{1,833}$=3.995; $p<0.05$). In this combination, it was older pupils attending Protestant secondary schools in Northern Ireland who reported the highest mean alcohol consumption. These findings indicate that diary drinking is highly correlated with the demographic variables: such relationships have already been shown in the analysis presented in Table 4.XX above[1].

4.5.3 Diary week - beverage types

Once again the open format allowed for an examination of the types of beverages consumed on each day. Unlike the overall distribution of alcohol consumed on the most recent drinking occasion, where wine was the most frequently mentioned drink, amongst the diary drinkers, spirits, strong beers and lagers, cider and ordinary strength lager were the most popular beverage choices (See Figure 4.XIII, below, for details). It is interesting to note that strong drinks were much more likely to be consumed on Fridays or Saturdays. Wine was the type of beverage most evenly spread over the seven days, and was as popular on Sundays as the other days of the weekend. These data corroborate the patterns found in the analysis of information relating to most recent drinking occasion, where lighter alcohol consumption was associated with those drinking wine, and stronger-strength beverages with heavier drinkers.

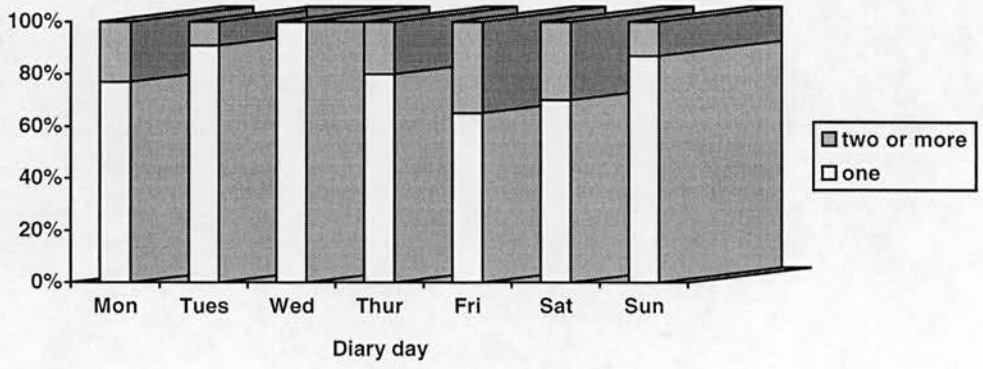
[1] When diary drinking was introduced into the ANOVA conducted on the greatest amount of alcohol ever consumed on one occasion, similar findings emerged. Diary drinking knocked out gender, and diary drinkers reported a much higher mean level (15.74 units) than did non-diary drinkers (5.84 units) $F_{1,760}$=8.82; $p<0.01$.

Figure 4.XIII: Types of beverage consumed by diary drinkers



As before, the number of different types of beverage consumed at one sitting was determined. As Figure 4.XIV below shows, the respondents still favoured, in the main, one type of alcoholic beverage per occasion, but the most common days for mixing were Friday and Saturday.

Figure 4.XIV: Number of beverage types consumed each diary day



Further analysis of drinking days would have been interesting, for example to determine whether different day combinations are favoured by different types of drinkers. However, the numbers were too small on weekdays to enable this to be done with any

degree of accuracy. Nevertheless, simple cross-tabulation revealed that 85 respondents consumed alcohol on both Friday and Saturday of the diary week. The distributions of the amounts of alcohol consumed showed a moderate positive association (Pearson's $r=0.52$; $p<0.001$), and sixteen individuals claimed to have imbibed in excess of eleven units of alcohol on each of the consecutive nights.

4.6 Summary and Discussion

The focus of this chapter has been to analyse various aspects of youthful consumption of alcohol. This section will present a summary of the findings included in the chapter. It will also discuss key results in light of findings obtained from comparable studies of adolescent drinking. Attention will be drawn to all the main variables of interest, namely, country, age, gender, religious affiliation and socio-economic status. Nevertheless in line with the aims of the study, the principal emphasis will be on comparisons between Scotland and Northern Ireland. It should, however, be noted that often comparison with other studies has been restricted as samples and methods have varied considerably between studies.

4.6.1 Prevalence of drinking

Overall, over three quarters of the total study group had consumed a 'proper' drink of alcohol, that is more than just a sip of an alcoholic drink. In terms of differences between the countries, it was found that the proportion of abstainers was higher in Northern

Ireland (25.2%) than in Scotland (19.1%). The proportions in both countries were much lower than those found in the national surveys conducted in the 1980s. For example, Marsh, Dobbs and White (1986) classed 23.6% of their Scottish sample of 13-17 year olds as abstainers. In Northern Ireland the two comparable surveys (Craig 1989; Craig, Francis and McWhirter 1991) revealed respective figures of 49% and 57%. Therefore, the findings from the current project could suggest that the number of teenagers who have had a whole alcoholic drink has increased, particularly in Northern Ireland.

However, these studies differed in some fundamental ways from the present exercise; notably the age groups included were different, and the former were national in their coverage. Moreover, as was outlined in Chapter 3, the Northern Irish study group in the present exercise contained a higher proportion of older respondents than did the Scottish group. In line with other self-report studies of youthful drinking (e.g. Marsh, Dobbs and White 1986; Craig 1989; Craig, Francis and McWhirter 1991), lifetime drinking prevalence was shown to increase with age. As a result, respondents aged 14-16 were more likely than the 11-12 year olds to have consumed alcohol. Thus, to ascertain the real influence of country, it was necessary to control for age. In order to determine whether each factor could have separately affected the likelihood of drinking, country and age, along with gender, religious denomination and socio-economic status, were entered into a logistic regression model.

This more detailed analysis also facilitated a better insight into interactions between the predictor variables. Interestingly, it was shown that the effect of country could not be considered separately from the influences of religious affiliation and socio-economic status. Religious affiliation was revealed to have an effect only in Northern Ireland, while the influence of socio-economic status were seen to work in opposite directions in the two countries.

It was found, that in Northern Ireland only, pupils attending Protestant schools were markedly more likely than their Roman Catholic counterparts to have consumed alcohol. In Scotland, there was no significant difference between those attending Roman Catholic schools and those attending non-denominational schools. The fact that religious affiliation made a difference in Northern Ireland is not surprising as evidence was presented in Chapter 2B which demonstrated that denominational affiliation has a very practical influence on patterns of behaviour in the Province. Nevertheless, it might have been expected that Protestants would have been less likely to consume alcohol, the reason for this being that amongst adults in Northern Ireland, it is those affiliated to the Protestant churches who are more likely to abstain (Table 2.VI).

Country also interacted significantly with age and socio-economic status, to indicate that in Scotland, respondents aged 14-16 who attended independent schools (and were thus assumed to come from more affluent backgrounds) were the most likely group in that country to have consumed alcohol. However, in Northern Ireland, amongst the older

respondents it was those from more working class areas who were most likely to have consumed alcohol. In fact the extremely strong interactive effect implied that pupils aged 14-16 from less affluent areas of Northern Ireland constituted the combination most likely to have consumed alcohol.

Directly comparable information relating to the effects of socio-economic status is not available. However, some support was found for the effect noted amongst the Scottish pupils. Two other surveys of Scottish teenagers have found that drinking in that country may be more likely among those from higher social groupings. Firstly, Currie, Todd and Wijckmans (1993) discovered that highest drinking rates were to be found among pupils aged 15 from professional and more affluent backgrounds. Hendry at al's (1993) survey of Scottish 13-17 year olds reported that despite some suggestion that there was more frequent drinking in the more affluent areas, this was not statistically significant.

What is clear so far from the findings of the present study is that other surveys which have suggested that Northern Irish young people are less likely than their Great British counterparts to consume alcohol have not taken into account other pertinent mediating variables, such as socio-economic status and religious affiliation.

Finally, the logistic regression analysis also confirmed that the older age group were more likely to be drinkers than the 11-12 year olds. In addition, it was shown that amongst the 11-12 year olds, males were significantly more likely than females to have

consumed alcohol. This difference, although still present, was nearly so marked among the 14-16 year old age group. Once again this trend - for gender differences to be moderated with age - has been noted in other studies of youthful drinking (e.g. Currie and Todd 1992).

4.6.2 First alcoholic drink

Most respondents reported having consumed their first drink of alcohol before the age of 13. The most popular age reported was between 10-11 years old. Analysis of variance revealed that those from Scotland, males and 11-12 year olds were all more likely to have consumed their first drink at a younger age. Problems of poor recall were offered as a likely explanation for the discrepancies between the two age groups as previous work in this area (e.g. Bagnall 1991a) has indicated this factor to be a major barrier to the accuracy of such information. Moreover, it has also been suggested by several authors (e.g. Marsh, Dobbs and White 1986; Coggans and McKellar 1995) that a young person's definition of a 'proper' drink is likely to change as the respondent gets older.

Nevertheless, neither of these reservations can account for the finding that those from Northern Ireland were more likely to have consumed their first drink of alcohol later than their Scottish counterparts. Neither of the two national surveys in Northern Ireland provided detailed data on age of first alcoholic drink. However, Marsh, Dobbs and White

(1986), while finding that the majority of their British sample had consumed their first drink at age 11 or younger, also found that young people in Scotland were more likely than those in England or Wales to not start drinking until later. By comparison, the respondents in McAteer's (1991) West Belfast study exhibited a mean age of over 13 years old. Thus it may be that young people in Northern Ireland do not start drinking until a later age than their Great British counterparts.

Although for all groups, the most common source of this first drink was parents, those from Northern Ireland were less likely than Scottish respondents to have obtained this drink from their parents and more likely to have received it from friends. Respondents attending Protestant or non-denominational schools were more likely than Roman Catholic pupils to have been given this drink by parents, but also by older friends. The first of these effects was greater in Northern Ireland than in Scotland.

Other studies in Britain (e.g. Plant, Peck and Samuel 1985; Bagnall 1991a) have also shown that young people in Britain are most likely to receive their first drink from their parents. In contrast, McAteer's (1991) study of young people in West Belfast found that only a tenth of respondents there reported having their first drink with parents, whereas nearly 86% had first consumed alcohol in the company of friends. Notably, her survey was conducted entirely of Roman Catholics. Furthermore, many of the respondents expressed the view that even if their parents drank, they regarded drinking as an activity they did not want their children to engage in. Additional evidence to support these

country differences is supplied by O'Connor's (1978) study in the Republic of Ireland and England. She found that the majority of Irish young people had consumed their first drink in the company of friends, compared to half or even fewer of the Anglo-Irish and English respondents.

Additional findings in the present study indicated that pupils attending schools in less affluent areas were less likely to have been given their first drink by parents and more likely to have obtained it from friends, particularly older friends. This final effect was especially marked for Roman Catholics. Interestingly, there were no significant differences observed between the two age groups, nor between males and females.

After this initial experience of alcohol, most respondents in the current study had their next drink within a year. However, it should be borne in mind that 130 respondents reported not having consumed another drink of alcohol after their first. Older respondents and those from Northern Ireland were more likely to consume their next drink sooner. Both these effects were more marked for males than for females. In both countries, those attending Protestant or non-denominational schools were more likely to have their next drink sooner than their Roman Catholic counterparts.

Qualitative research by McAteer (1991) revealed that young people might well experience their first alcoholic drink at an early age, yet not begin to drink regularly for

some time afterwards. However, the results illustrated in this survey show that for a substantial minority (104) people, their next drink was within a week of their first.

4.6.3 Most recent drinking occasion

Recency

Overall, the results to this question exhibited a bi-polar distribution, with nearly 30% of drinkers having most recently consumed alcohol within the week preceding the survey, and 27.5% having done so over 3 months ago. Pupils in Northern Ireland, especially those aged 14-16, were more likely than those in Scotland to have consumed alcohol within the last week.

In relation to country comparisons, data from the OPCS and DHSS surveys showed that amongst 13 year olds, males and females in England and Wales were most likely to have consumed alcohol in the fortnight preceding the survey. Pupils from Northern Ireland were less likely to have been drinking in this fortnight, and Scottish pupils even less so. Amongst the 17 year olds, English and Welsh were still the most frequent drinkers, but Northern Ireland and Scotland were about level. However in the present survey, Northern Irish respondents, especially those aged 14-16 were more likely than the Scots to have consumed alcohol in the week preceding the survey. As was stated in Chapter 3 (Section 3.4.2), although the bulk of data were collected in Autumn 1992,

some Northern Irish schools were surveyed in the following January. Thus, festive drinking (at Christmas and New Year) could have distorted these results. However, the fact that these schools were surveyed late in January, coupled with the finding that the difference in recency of consumption related to the week prior to the survey, would indicate that these data were not contaminated by the time of collection.

In both countries the 14-16 year olds were more likely than the younger respondents to have been drinking within the previous fortnight. Again studies have consistently shown that frequency of drinking increases with age (e.g. Hendry et al 1993), so it is not surprising that more of the older age group had been drinking in the week preceding the survey. However, other studies have also shown that males were more likely to be classed as frequent drinkers, but this finding did not emerge here.

Age and socio-economic status presented an interesting interaction which showed that, amongst the younger age group, respondents from less affluent areas were more likely to have consumed alcohol in the week preceding the survey. On the other hand, for those aged 14-16 years old, it was pupils from middle class backgrounds who were more likely to have been drinking in the previous week. This effect did not differ between countries.

Location

The most popular drinking location was at home, with parents - it was found that nearly one quarter of drinkers had consumed alcohol most recently in this setting. Significant numbers had also been drinking most recently at friends' homes (19%; n=171) and outdoors, in such locations as parks, wastelands and streets (13.1%; n=118).

Regardless of age, respondents from Northern Ireland were more likely to drink in public places, for example in a bar, club or disco. They were also markedly more likely than their Scottish counterparts to have most recently consumed alcohol in an outdoors context. Furthermore, it was also shown that in Northern Ireland only, those from working class backgrounds were more likely to have been drinking away from home, without supervision, e.g. in friends' homes. Although for both countries, working class respondents were more likely than their more affluent counterparts to have been drinking outdoors, this effect was particularly strong for those in Northern Ireland. Thus, as with lifetime prevalence, socio-economic status was demonstrated to have more of an effect on the drinking behaviour of the Northern Irish respondents.

The national surveys questioned respondents about their 'usual' location of drinking. In Great Britain it was found that the youngest adolescents usually drank at home or in homes of relatives or friends. Older respondents (16 and 17 years old) were most likely to drink in public bars, clubs or discos. Marsh, Dobbs and White (1986) observed that

such age-related changes took place at an earlier age among the Scottish drinkers. The comparable survey of Northern Irish adolescents (Craig 1989) noted that the proportions of young people drinking in unspecified contexts was much higher in Northern Ireland for 13-15 year olds than in the other counties. This was true for both males and females. The author assumed that the unspecified contexts must be mostly outside, on the streets.

Although there were no differences between the genders, older respondents were more likely than those aged 11-12 to have been drinking away from home and without supervision than in any other context. Older working class respondents were even less likely than their younger peers to have been drinking most recently with parents. Evidence from reviews undertaken by May (1992) and Lister Sharp (1993) shows that, in general, as teenagers grow older, they move from drinking in their own homes to drinking with friends in other places.

Respondents attending Protestant or non-denominational schools were more likely than their Roman Catholic peers to have been drinking most recently with parents. Finally, although middle class Protestants were more likely than their Roman Catholic counterparts to drink outdoors, the reverse was true for those from a less wealthy background.

Company

The answers to this question, which were closely linked to the location of respondents' most recent drinking occasion, showed that respondents in Northern Ireland, females and 14-16 year olds were all more likely to drink with peers rather than parents. It can be noted here that these location and company preferences consolidate the findings of source of first alcoholic drink. Thus it appears that the Northern Irish young people in the study established their preference to drink with peers rather than parents right from their first experience with alcohol. In addition, in their survey of Scottish 14-16 year olds, Plant & Foster (1991) found that the girls were more likely than the boys to have last consumed alcohol with a mixed group of friends and were less likely than males to have last drunk with their parents.

It had been anticipated that there may be differences between those drinking with same sex and mixed sex groups. In terms of ages of friends, most respondents indicated that they had been parts of a same age or group comprising mixed ages. Nevertheless one fifth reported drinking with a group comprising mainly older friends. However, although it might have been expected that the younger respondents were more likely to choose older drinking companions, it was in fact the older age group who were more likely to fall into this category. This finding perhaps reflects the fact that this age group were also more likely to have consumed alcohol more recently on licensed premises. The Northern Irish respondents were markedly more likely to report having been drinking with a group

of friends of mixed ages. This result partially supports findings from a previous study. In her survey of West Belfast teenagers, McAteer (1991) found that very often children started, and continued, to drink with friends older than themselves.

Again the national surveys asked about *usual* drinking companions:

> 'Only among the 15 year olds does the proportion of adolescents who say they *usually* drink with friends significantly exceed those usually drinking with their families. Girls then start to show a preference for drinking with their boyfriends, the boys for drinking with their mates. This is true, at least, in England and Wales. In Scotland the switch from home-based to peer-based drinking occurs earlier.' (Marsh, Dobbs and White 1986: 16)

In comparing the answers of the Northern Irish respondents to the information obtained in Great Britain, Craig (1989) noted that some of the most striking differences between Northern Ireland and Britain were shown in relation to usual drinking companions. It was shown that although amongst the 13 year olds in Great Britain, drinking with parents was by far the most popular choice of companions, for Northern Irish adolescents drinking with friends of the same sex was most popular at the younger ages and then moved to drinking with friends of both sexes. Moreover, although Craig found that, at every age and for both sexes, young people in Northern Ireland were more likely than those in Great Britain to be solitary drinkers, no such finding emerged in the present study.

The significance of these contextual aspects of youthful drinking were discussed in Chapter 2A. To recap briefly, previous studies (e.g. Davies and Stacey 1972; Ghodsian and Power 1987) have shown how drinking venue and companions affect the style of drinking: drinking outside the home and in the company of peers, rather than parents, is related to higher alcohol consumption. In their review, mainly of US research, Foxcroft and Lowe (1991) also emphasised the importance of parental support and control in formation of 'safe' adolescent drinking practices. The implications of the differences in preferences found in the current and other studies, are therefore that young drinkers of all ages in Northern Ireland are more likely to consume alcohol in situations associated with heavier drinking. To investigate this further, respondents were asked to record details of the alcoholic drinks they had consumed on their most recent drinking occasion. These data were collected in an open format, and the drinks were then calculated into units of alcohol.

Amount

Just under half (47.5%; n=421) of all drinkers reported consuming only one or two units of alcohol on their most recent drinking occasion. Nevertheless, 14.5% of individuals (n=129) had consumed 11 or more units on this occasion. When the answers were split into categories identifying 'heavy' drinkers (males 11 or more units; females 8 or more units), log-linear analysis revealed that older respondents and those from Northern Ireland were more likely to be 'heavy drinkers'. Moreover, while in both countries males

and females from less affluent backgrounds were more likely than their wealthier counterparts to be light-moderate drinkers as opposed to completely abstaining from alcohol, in Northern Ireland only, working class females were markedly more likely than their middle class peers to be classed as 'heavy' drinkers.

As this procedure did not allow for comparison of alcohol consumption between the sexes, a second method of analysis employing analysis of variance was applied to the data. This procedure, which measured significant differences in the mean levels of alcohol consumed across each group, supported the findings above. Thus, older respondents had, on average, consumed more than the 11-12 year olds; pupils attending schools in less affluent catchment areas displayed higher means than their wealthier counterparts, and the mean for Northern Irish young people was higher than in Scotland. As was predicted, the mean level for males was higher than for females. Plant and colleagues, in their surveys of Scottish and English teenagers, had also shown that there were more heavy drinkers among males than among females (Plant et al 1990; Plant and Foster 1991). Perhaps, most importantly, in the present study, a three-way interaction between country, gender and age, confirmed that for both ages and both genders, those from Northern Ireland consistently reported consuming higher quantities of alcohol on their most recent drinking occasion.

A further point of interest is that although it was shown that Roman Catholics were less likely to drink than their Protestant or non-denominational counterparts, religious

affiliation did not seem to affect levels of drinking amongst those who did consume alcohol when examined in either analysis procedure.

The national studies collected information on alcohol consumption only from those who had been drinking in the week prior to the survey. As this information was collected via a drinking diary, the consumption amounts reported were for a week rather than relating to just one occasion. Such differences in methodology obviously limit comparisons with the present study. Nevertheless, as was presented in Chapter 2A, previous work has also indicated that the Northern Irish may be heavier drinkers, with both males and females in Northern Ireland reported markedly higher diary week consumption of alcohol as compared to their counterparts in Scotland, England and Wales (Marsh, Dobbs and White 1986; Craig 1989; Craig, Francis and McWhirter 1991). Furthermore, the ambivalent pattern of drinking amongst young people in Northern Ireland identified in these previous surveys has been supported by findings from the present study.

Type

A further advantage of asking about last occasion's alcohol consumption in an open format was that the types of alcohol could also be determined. Analysis showed that the most frequently mentioned drink was wine, followed by spirits. It should be noted that beer and lager were considered as two separate categories - if they had been considered together, they would have represented the most popular beverage choice. However, the

justification for keeping them separate was shown in further analysis - where it was demonstrated that lager drinkers were heavier consumers than those who showed a preference for beer.

Logistic regression analysis of each category of alcoholic drink revealed that lager was the most popular drink amongst males, with wine being the beverage of preference for females. In Scotland only, there was a male preference for beer. However, in Northern Ireland females were just as likely as males to have consumed beer. Spirits were also preferred by males, although cider did not show such gender preferences. These gender-based preferences have also been found in other studies (e.g. Marsh, Dobbs and White 1986; Craig 1989; Craig, Francis and McWhirter 1991; McAteer 1991).

Age proved to have a significant effect on all beverages. Younger respondents preferred wine and beer, while those aged 14-16 preferred spirits, lager, cider and strong beer or lager.

Additional country preferences included a preference amongst Scottish pupils (of both age groups and genders) for wine and of Northern Irish respondents for lager, cider and spirits. Sweeney, Gillan and Orr (1990) found that beer, lager and cider were popular among people under 30 living in Belfast, particularly Roman Catholics. However in the present survey, pupils attending Roman Catholic schools in more affluent areas were more likely to have consumed spirits, while it was their less wealthy counterparts who

preferred cider. It is also to be noted that Northern Irish Protestants were the most likely country/denomination combination to have been drinking strong ciders at the most recent drinking occasion.

Comparisons of OPCS data and DHSS data revealed that levels of spirits drinking was highest for Scottish respondents when usual beverage choice was obtained form the total number of drinkers, but it was shown amongst those who completed a drinking diary, that Northern Irish pupils were more likely to have consumed spirits (Marsh, Dobbs and White 1986; Craig 1989).

In addition to being less likely to have consumed spirits, those from less affluent backgrounds were also less likely to have consumed wine and more likely to have been drinking beer, lager, cider and particularly strong cider. McAteer (1991) commented that qualitative research among her teenagers from an working class area showed that drinks are chosen primarily on the basis of being able to share. This in turn reflects the context in which the drinks are consumed.

A further interesting point of note is the small proportion of respondents who reported drinking 'strong' beers, lagers or ciders on their most recent drinking occasion. At the time of data collection (1992-3), strong concern was being expressed by media and health educators that strong drinks were being targeted by manufacturers and advertisers particularly at adolescent drinkers. However, the results from this study would indicate

that young peoples' preferences lay with fairly 'traditional' alcoholic drinks. This contention is supported by evidence obtained from a qualitative study of periodic heavy drinking conducted in Lothian (Loretto, May and Bittker 1993). The young people interviewed in this study claimed that, as one of the main reasons they consumed alcohol was to appear more grown up, they wished to consume the same types of drinks as adults. A further implication of this finding could be extremely relevant in the latest (1996) 'moral crusade' against alcoholic soft drinks or 'alcopops'. Once again there is a very real concern that these beverages are being even more aggressively marketed towards young people as they taste sweet and, as their name implies, they have been created to emulate the traditional soft drinks. However, a recent survey undertaken by the Scottish Council on Alcohol (1996) suggested that drinkers under 18 years of age account for a very small proportion of the alcoholic soft drinks market.

Combinations

Although the majority of drinkers (71.4%) reported consuming only one type of alcohol during their most recent drinking occasion, nearly one quarter had mixed two types, and 43 individuals had combined three or more beverage types. It had been expected that more mixing might have occurred. Nevertheless, a fairly strong positive association was observed between number of different types of alcohol consumed and the amount consumed, indicating that especially amongst females, those who mixed their drinks were likely to be heavier drinkers. Moreover those mixing their drinks were much less

likely to have most recently consumed alcohol at home, with parents and more likely to have been drinking in public contexts. This again relates back to the finding from other studies (e.g. Marsh, Dobbs and White 1986; McAteer 1991), that adolescents very often share drinks among the drinking group.

When types of alcohol were clustered, the group preferring strong drinks was the one which was most likely to belong to the heavy drinking categories for both males and females. This finding can be interpreted as follows: those respondents who consumed several types of alcohol in one sitting were also those who consumed strong drinks and hence were more likely to drink more heavily. Wine drinkers were the group most likely to be classed as light drinkers, consuming only one or two units on their most recent drinking occasion. In a recent survey of young people in Canada, Smart and Walsh (1995) also found wine to be the beverage of moderation. In contrast, those who consumed beer or spirits, or wine, beer and spirits in any occasion, were more likely to be heavy drinkers. Thus, again there is evidence, based upon their choice of alcoholic beverage, to support the fact that the Northern Irish respondents were heavier drinkers.

4.6.4 Largest quantity of alcohol on one occasion

Although over half of drinkers (54%) had never consumed more than 4 units of alcohol at any one time, 13% or 106 respondents reported having consumed 21 or more units at one sitting. This figure corresponds to the Royal College of Physicians 'low risk' *weekly*

limit for adult men. Overwhelmingly, it was those who were heavier drinkers at most recent drinking occasion who were also the heaviest consumers using this measure. Analysis of variance revealed that the highest mean (18.5 units) was seen amongst 14-16 year olds, living in Northern Ireland and attending secondary schools affiliated to the Protestant denomination. This information supports the factors associated with heavier drinking identified in relation to alcohol consumption on most recent drinking occasion.

Almost half of all drinkers indicated that they had consumed this amount of alcohol only once. However, it was clear that in a substantial number of cases, this reported amount of alcohol had been consumed on successive occasions, with 42 individuals reporting that they had consumed at least 21 units of alcohol between two and five times. In Scotland, older respondents were more likely to have consumed this amount on successive occasions. Females, particularly in Northern Ireland, were more likely than males to report having consumed this amount of alcohol on more than one occasion. Overall, respondents from more working class areas were more likely to have consumed the stated amount on more than one occasion. Finally, wealthier respondents who attended Protestant or non-denominational schools, especially in Northern Ireland, were more likely to have consumed this amount of alcohol on successive occasions. Therefore, these findings provide some evidence to support the premise that those groups who were categorised as heavier consumers of alcohol were likely to be regular heavy drinkers.

4.6.5 Drinking diary

This collected information from the 261 respondents (30.2% of drinkers) who claimed to have consumed alcohol in the week preceding the survey. By far the most popular days for drinking were Friday and Saturday, and the mean number of drinking days in the diary week was 1.75. Nearly half the 'diary drinkers' had consumed alcohol on only one day, but 44 respondents claimed to have been drinking on three or more days. This pattern, with the major drinking occurring on Fridays and Saturdays, is strikingly similar to adult's drinking (Sweeney, Gillan and Orr 1990; Goddard 1991).

It is noted that the proportion of drinkers who completed the diary was much smaller than those obtained in the national surveys. This discrepancy can probably be attributed to differences in methodology. In the present survey, the diary was included as one of the items in the main survey instrument, whereas in the national surveys, it was distributed separately. Marsh, Dobbs and White (1986) thus found that some respondents who had claimed to be non-drinkers in the main survey then proceeded to fill in the drinking diary. They suggested that this was an 'owning up' effect and that individuals would feel 'reassured by the sight of others around them filling in their last week's quota unabashed' (1986: 25). These authors did not seem to consider the possibility that some pupils may have competed the drinking diary in order not to feel excluded. This effect was counteracted in the present study firstly by including the drinking diary in the main questionnaire and secondly by distributing a word game with the questionnaire so as

respondents who finished earlier (often those who did not drink as they had fewer questions to complete) were not left with nothing to do.

Moreover, in the national surveys, a further problem occurred: in Scotland, 31% of those who had recorded drinking alcohol in their diaries had earlier stated that their most recent drink was at least two weeks ago. This figure was 18% in England and Wales. Marsh and his colleagues concluded that there was 'no real way to reconcile these discrepancies' (1986: 26) and left it open to the reader to interpret the higher rates of drinking in the diary as over-reporting.

For these reasons, only patterns can be compared between studies. Although Craig (1989) found that Northern Irish males drank on more days during the diary week than did the Scots, no such difference emerged in the present study. Nevertheless, other notable differences were revealed.

An interesting interaction between religious denomination and socio-economic status was observed, which showed that for Protestants, pupils attending middle class schools were more likely to have drunk on one or more days within the diary week. However, the reverse was true for those attending Roman Catholic schools - there it was respondents from predominantly working class areas who were more likely to have been diary drinkers. This difference was greater in Scotland than in Northern Ireland. However, in Northern Ireland the socio-economic effects were greater, indicating that working class

pupils in Northern Ireland were even more likely than their Scottish counterparts to have consumed alcohol on one or more days within the previous week. Once again, consistency is observed between these factors and those predicting the relative likelihood of heavier drinking.

Not only were the older respondents more likely to be diary drinkers, but they were also more likely to have consumed alcohol on two or more days within the diary week. Finally, although females in the younger age group tended to be less likely than males to have consumed alcohol in the diary week, these differences were not as marked amongst the older age group.

In terms of consumption of alcohol during the diary week, Friday and Saturday were also characterised by the heaviest drinking, and Sunday the lightest. Overall, just under a third of the week's drinking occasions were typified by light consumption - one or two units, while one fifth involved 11 or more units. When most recent occasion's alcohol consumption was compared between diary drinkers and non-diary drinkers, the former group were seen to be the heavier consumers of alcohol, with a mean of 8.44 units, compared to 3.84 for non diary drinkers. Overall, the heaviest consumers were males, aged 14-16 who came from a less affluent background and had consumed alcohol in the week before the survey.

In terms of beverage type, diary drinkers were shown to favour spirits, strong beers and lagers, cider and ordinary strength lager. Once again they were more likely to consume these strong drinks on Fridays and Saturdays and were also more likely to mix their drinks on these days. Although the cell sizes were too small to enable further analysis of these diary data, it was shown that sixteen individuals claimed to have consumed in excess of eleven units on each of the consecutive nights.

This section has presented a summary and discussion of the key findings relating to the drinking behaviour of young people in this study. In general, the findings have supported information obtained from other surveys of adolescent drinking. In particular, the polarised patterns of drinking amongst people residing in Northern Ireland has been illustrated by these data. Thus it has been demonstrated that the Northern Irish respondents were less likely than those in Scotland to drink but more likely to be heavier drinkers and to have consumed alcohol most recently. These findings were also supported by contextual factors surrounding heavier youthful alcohol consumption, most notably, drinking location and companions and type of alcoholic beverage consumed. A further aspect to this study has demonstrated that differences between young people from different socio-economic or religious backgrounds were markedly more pronounced in Northern Ireland than in Scotland.

The following chapter will examine some of the experiences associated with drinking, and will also investigate patterns of smoking and illicit drug use amongst the study group. The remainder of the results will then consider some of the principal correlates of youthful drug and alcohol use.

CHAPTER 5

BEHAVIOURS ASSOCIATED WITH ADOLESCENT DRINKING

5.0 INTRODUCTION

As was outlined in the review in Chapter 2A, surveys of youthful alcohol use frequently conclude that, although in the main teenage drinking is uneventful and problematic, it is nevertheless associated with a number of acute consequences, many of them undesirable. Moreover, as was also seen in Chapter 2A, a further concern is that adolescent drinking is also often associated with smoking and use of other, illicit, drugs. To investigate these matters further, and to determine whether any differences exist between Northern Ireland and Scotland in this respect, the present study included questions to elicit information on consequences of drinking, and use of tobacco and other drugs.

In addition to examining the prevalence of and demographic influences on such behaviour, this chapter will also analyse the ways in which such behaviours may be linked to use of alcohol. This connection was at the heart of Jessor and Jessor's (1977) 'problem behaviour theory' (See Chapters 1 and 2A), which was underpinned by the concept that young people who were likely to engage in one form of problem or deviant behaviour (e.g. youthful drunkenness) were also more likely to become involved in other forms of problem behaviour (notably use of other drugs and 'general deviance').

However, the Jessors considered that involvement in problem behaviour could be moderated by involvement in 'conventional' behaviour or by holding 'conventional' attitudes. One of their specific measures of conventionality was the value a young person placed on academic achievement. This hypothesis is explored in the present study, and in the latter sections of the chapter an investigation of how youthful drinking, smoking and use of illicit drugs influences young people's aspirations for their own educational futures is presented. The final area considered discusses another potential moderator of

youthful alcohol and drug use, that of education relating to substance use. Both school-based education and information from other sources are included.

5.1 Drinking Consequences

To measure these, it was decided to ask the respondents how often had they experienced a variety of post-drinking outcomes. The list presented both desirable outcomes (feeling happy, having a good time, being more at ease with friends) and less desirable consequences or illegal activities (feeling dizzy or faint, experiencing a headache, vomiting, feeling too ill to attend school, memory loss, trouble with parents, becoming involved in an argument or fight, using illicit drugs). The pupils were required to answer always, often, sometimes or never in response to each consequence. Full details of the responses are given in Table 5.I below.

Table 5.I: Experience of drinking consequences

Consequence	Proportion of drinkers experiencing each consequence (%)			
	Always	Often	Sometimes	Never
Feeling happy	20.1	22.0	24.7	33.2
Having a good time	21.0	24.1	20.5	34.4
Being at ease with friends	23.1	17.2	25.0	34.8
Having vomited	1.7	2.4	25.0	70.9
Felt dizzy or faint	1.1	2.2	34.0	62.8
Experienced a headache	4.1	9.4	29.1	57.3
Felt too ill to attend school	1.6	1.5	7.4	89.5
Fallen over	4.2	9.4	21.0	65.5
Memory loss	4.1	8.6	23.4	63.9
Tried drugs	2.3	3.7	14.8	79.2
Trouble with parents	1.7	2.3	15.9	80.1
Involved in a fight	1.9	3.3	18.3	76.5

As can be seen from Table 5.I, the majority of respondents did report trouble-free drinking experiences. Not surprisingly, sizeable proportions reported positive effects associated with consuming alcohol, such as feeling happy or having a good time. The most commonly experienced negative consequences included having a headache (13.5% always or often), falling over (13.6% always or often) and being unable to remember part of the time when drinking (12.7% always or often). The latter presumably implied having been intoxicated. In order to determine if it was the same people who experienced all these outcomes or if some experienced only positive effects while others had a less happy time, it was decided to inter-correlate these experiences. The results are presented in Table 5.II (Appendix B).

As is shown in Table 5.II, each experience was positively correlated with the other, at least to a moderate extent. The strongest associations existed between the three desirable consequences. This meant that those respondents who reported feeling happy after drinking were also more likely to have felt that they had enjoyed the drinking occasion (Pearson's $r=0.70$; $p<0.001$) and had also felt to be more at ease with friends (Pearson's $r=0.64$; $p<0.001$). Surprisingly, falling over and not being able to remember part of the drinking occasion did not appear to impair the pupils' enjoyment of drinking occasions as these effects displayed moderate positive associations (Pearson's $r=0.48$; $p<0.001$). Although, it should be noted that such consequences may not have been experienced at the same drinking occasions. However, falling over also seemed to be frequently associated with vomiting (Pearson's $r=0.47$; $p<0.001$) and with taking other drugs (Pearson's $r=0.48$; $p<0.001$). The latter also showed a moderate association with experiencing a good time (Pearson's $r=0.41$; $p<0.01$).

Table 5.II also presents the levels of association between each of the consequences and drinking status for males and females separately. Drinking status was divided into light,

moderate and heavier drinkers[1]. The associations between quantity of alcohol consumed and experience of drinking consequences proved to be fairly weak, especially for males. Female heavier drinkers were more likely to have reported that their drinking was more often associated with positive consequences and also with falling over and memory loss. Experimentation with other (illicit) drugs whilst drinking was only moderately associated with heavier drinking for both genders (males: Pearson's r=0.32; females: Pearson's r=0.37; $p<0.001$). Further information on drug taking behaviour was elicited by a separate set of questions. The results from these are discussed in detail in Section 5.3 below.

A further point of interest concerning these data was to determine whether certain respondents were more or less likely to experience some or all of the consequences. To achieve this aim, cluster analysis was conducted on the answers to this set of questions. As before (See Chapter 4, Section 4.3.6), hierarchical cluster analysis on repeated random samples indicated that two clusters would optimally split the total number of drinkers. K-means cluster analysis on all the drinkers revealed that 478 respondents (58.2% of drinkers) fell into Group 1 and the remainder, 344 respondents, were in Group 2. To investigate the nature of each of these sub-groups further, their answers to the drinking consequences were compared.

From this comparison, it was found that the majority of respondents in Group 1 had answered 'never' to each item relating to drinking consequences. Thus, for example, well over nine tenths of these individuals had never fallen over, felt too ill to attend school after drinking, or had tried any illicit drugs. The majority had not even experienced the more positive consequences of imbibing alcohol: only one third reported

[1] For definitions see Chapter 4, Section 4.3.6.

feeling happy after drinking, and even fewer felt that they had experienced a good time when consuming alcohol.

By contrast, those individuals belonging to the second group were much more likely to have experienced all the consequences presented in the survey questionnaire, particularly the positive ones. For example, two thirds of this sub-group had suffered a post-drinking headache or had experienced alcohol-related memory loss. Just under half had tried illicit drugs or become involved in an argument or fight. Fifty-five per cent had been sick at least on some occasions.

On the more positive side, only one third had run into trouble with their parents over drinking and almost 80% reported that they had never been too ill to attend school the next morning. However, it should be noted that in relation to the latter point, it was also shown from the analysis of diary drinkers (See Chapter 4, Section 4.5.1) that most heavy alcohol consumption occurred on Fridays or Saturdays. The drinkers in this group also appeared to experience positive consequences from their alcohol consumption, with only 2% or fewer reporting that they never felt happy, had a good time or felt more at ease with friends when drinking. In light of this analysis, it was decided to name Group 1: 'Uneventful drinkers' and to denote Group 2 as 'Eventful drinkers'.

In order to determine the demographic composition of each of the groups, they were subjected to logistic regression analysis. The dichotomous measure of drinking status (light-moderate and heavy[1]) was also included as one of the predictor variables. For this reason, separate models were conducted for males and females. The results of these are presented in Table 5.III (Appendix B). The odds ratios in this table predict the relative likelihood of belonging to the 'Eventful drinkers' group. For both genders, it was shown

[1] For definitions see Chapter 4, Section 4.3.4.

that the odds of being an 'eventful' drinker were markedly increased by being a heavier drinker. This was particularly true for males where the odds of being an eventful drinker were increased 31 times by being a heavy as opposed to a light or moderate consumer of alcohol. Interestingly, this very strong effect was observed amongst middle class male heavy drinkers; it was reduced by a factor of ten (odds ratio=0.105) for their counterparts from less affluent backgrounds.

For males, the three-way interaction between country, age and denomination indicated that, in Northern Ireland only, there was religious affiliation proved to significantly affect group membership. In Ulster, males, particularly older males, attending Roman Catholic schools were significantly more likely than their colleagues attending Protestant schools to experience a variety of consequences after drinking[1]. The strength of this effect meant that 14-16 year old, Roman Catholic males from Northern Ireland constituted the group most likely to have reported multiple drinking consequences.

The significant effects for females were slightly different. The significant interaction effect between socio-economic status and country indicated that in Northern Ireland only, those females from a less affluent background were more likely than their wealthier counterparts to have experienced a variety of alcohol-related consequences (interaction odds ratio = 3.370). In addition, age exerted a main effect on the model, with older females being more likely to come under the classification of 'eventful drinkers'(odds ratio = 12.354).

[1]Odds ratio for Northern Irish males increased by 2.740; OR for Co*Age*Denom interaction increased by 0.157.

5.2 TOBACCO SMOKING

5.2.1 Lifetime prevalence of smoking

Overall 575 respondents (49.1% of the total study group) had tried cigarette smoking. Lifetime prevalence varied with age: 32.6% of the 11-12 year olds had tried smoking; this figure rose to 67.1% by the ages of 14-16 ($x^2 = 138.008$; d.f. = 1; $p < 0.0001$). On initial examination of the results, there appeared to be no significant differences in relation to country of residence or gender. However, as with the data on drinking habits, this information was once again entered into a logistic regression model to take account of the age and gender imbalances between the study groups. The results of this model are presented in Table 5.IV (Appendix B).

After excluding the age bias, it was observed that gender did have a significant effect on the likelihood of smoking. Interestingly, although concern in recent years has focused on the number of young females who are taking up smoking, it was observed in this case that, amongst middle class respondents in Scotland, it was the males who were more likely to have done this. However, the strong interactive effect[1] between country and gender showed that in the Northern Irish group, it was the females who were more likely to have ever smoked. Moreover, the interaction between gender and socio-economic status also showed that for respondents from lower income backgrounds, it was also the females who were more likely to have smoked (interaction odds ratio = 1.840).

Country proved to also interact significantly with both age and socio-economic status. The first of these effects implied that the differences in lifetime prevalence of smoking observed between the two age groups was significantly less in Northern Ireland than in

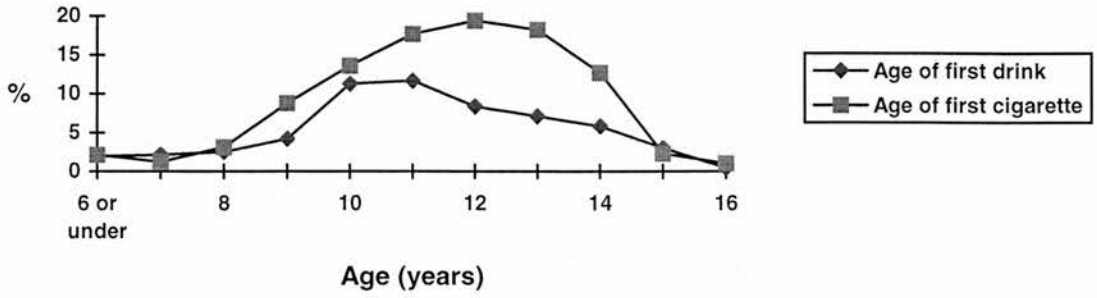
[1] CO2xSEX2xCO2*SEX2 = 0.98x0.57x3.437 = 1.136

Scotland. As can be seen in Table 5.III, the odds of the older respondents in Scotland ever having smoked were nearly six times greater than those of their younger counterparts. However this was modified by a factor of 0.407 amongst the Northern Irish pupils. The significant effect between country and socio-economic status showed that, for those respondents from Northern Ireland only, the pupils attending schools in lower income catchment areas were more likely than their middle class peers to ever have smoked (interaction odds ratio = 2.069). Interestingly, denomination emerged as a main predictor of lifetime prevalence of smoking, with those affiliated to the Roman Catholic Church in both countries being more likely to have ever smoked than their Protestant or non-denominational colleagues (odds ratio Roman Catholic: Protestant = 1:0.607).

Nevertheless, by far the most important single significant predictor of smoking proved to be whether or not the respondent had ever consumed alcohol. It was shown that, disregarding all other influences, being a drinker increased the odds of ever having smoked nearly eight times. However, it is important to note that this relationship only implies causality due to the way in which the model was formulated, i.e. if drinking had been the dependent variable it could easily have been demonstrated that smoking was a significant predictor of drinking.

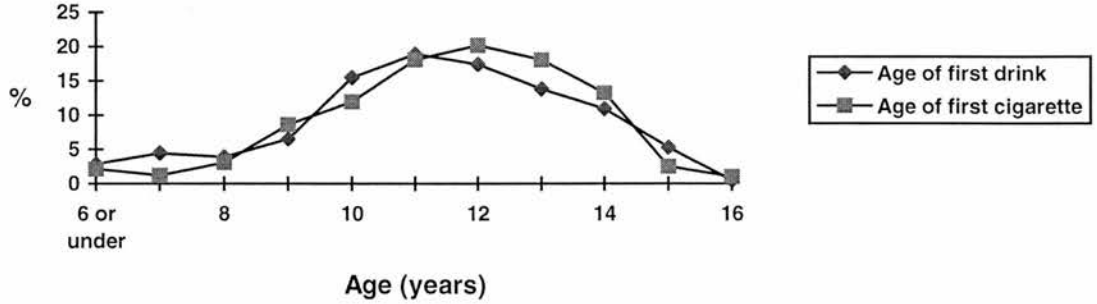
The question of whether there is a causal connection between early drinking experience and smoking, and which direction this may be in, is one which has presented a challenge to many researchers in this area. In the present survey, the respondents were asked to indicate the age at which they had tried smoking. When these compared with the age of onset of drinking it could be seen (full details are presented by Figure 5.I) that, on average, respondents tended to have consumed their first drink a year or so before their first cigarette. The modal age for initial consumption of alcohol was shown to be between 10 and 11 years old, while that for smoking was 12 years of age.

Figure 5.I: Age of first alcoholic drink and age of first cigarette



However, the figure above presents the curve for all those who had consumed alcohol, and the majority of drinkers (59%) had never smoked tobacco. Thus the figure was modified to trace the age profile including only those drinkers who had also tried smoking. The results are illustrated by Figure 5.II.

Figure 5.II: Age of first alcoholic drink and age of first cigarette (smokers+drinkers only)



It can be seen from Figure 5.II that, although age of onset of smoking still tended to lag behind age of first alcohol consumption, the two profiles were much more concurrent

than before. Thus it is suggested that for those young people who both consumed alcohol and smoked, in the main the drinking started before the smoking. However, for some these behaviours commenced at the same age.

5.2.2 Current prevalence of smoking

Next, those respondents who currently smoked were considered. Only 15.7% of the study group (184 respondents) reported being current smokers. Logistic regression (see Table 5.V, Appendix B) again, predictably, revealed that there was a higher proportion of smokers amongst the older age group. In fact, in Scotland, the odds of those aged 14-16 being current smokers were almost ten times those of the younger respondents. Once again this age difference was significantly less in Northern Ireland (interaction odds ratio = 0.472). Although for current smokers in Scotland there were no significant gender differences, it was demonstrated that, amongst those respondents from Northern Ireland, the odds of females smoking were more than twice those for males.

Socio-economic status proved to be a significant predictor of current smoking behaviour: in Scotland, the odds of those from working class school catchment areas smoking were almost five times those of their middle class peers. This effect was doubled in Northern Ireland. However, in both countries it was much more marked amongst those pupils aged 11-12. Denomination had an almost identical effect on current smoking as on lifetime experience, i.e. those attending Roman Catholic schools in both countries were more likely to smoke (odds ratio Roman Catholics: Protestants = 1:0.677).

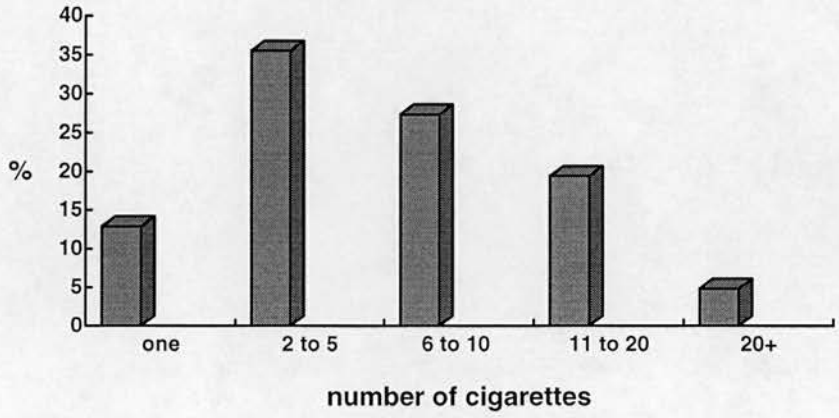
Once again the most significant predictor was shown to be related to the respondents' drinking status: the odds of drinkers being current smokers were 15 times those of

abstainers. This difference is also apparent on viewing the 'raw' contingency tables: only four of those respondents who abstained from alcohol reported that they smoked.

5.2.3 Quantity of cigarettes smoked

The smokers were then asked how many cigarettes they smoked each day on average. The categories ranged from one to 20 and more. The modal number of cigarettes smoked was between 2 and 5 per day. Full details are given in Figure 5.III.

Figure 5.III: Daily number of cigarettes smoked



Log-linear regression analysis was subsequently conducted on these data to determine if they were affected by any of the principle variables. The results of this are presented in Table 5.VI (Appendix B).

In order to construct a meaningful model, the answer categories were collapsed into three classes. The first contained those respondents who reported smoking between one and five cigarettes daily; the second between 6 and 10 per day; and the third 11 or more. As can be seen from Table 5.VI, denomination was the only variable on its own to significantly affect the model: those affiliated to the Protestant or other faiths were less

likely than their Catholic counterparts to smoke between 6 and 10 cigarettes per day as compared to between 1 and 5 (odds ratio increased by 0.364). Thus, not only was it shown that the Roman Catholics in the study were more likely to be smokers but also that even among the smokers they were heavier users. An interaction between gender and denomination supported this finding. It indicated that both male and female smokers attending Protestant or non-denominational schools were more likely than their Roman Catholic colleagues to smoke fewer cigarettes (i.e. 5 or less) on a daily basis. This denominational difference was particularly marked for females.

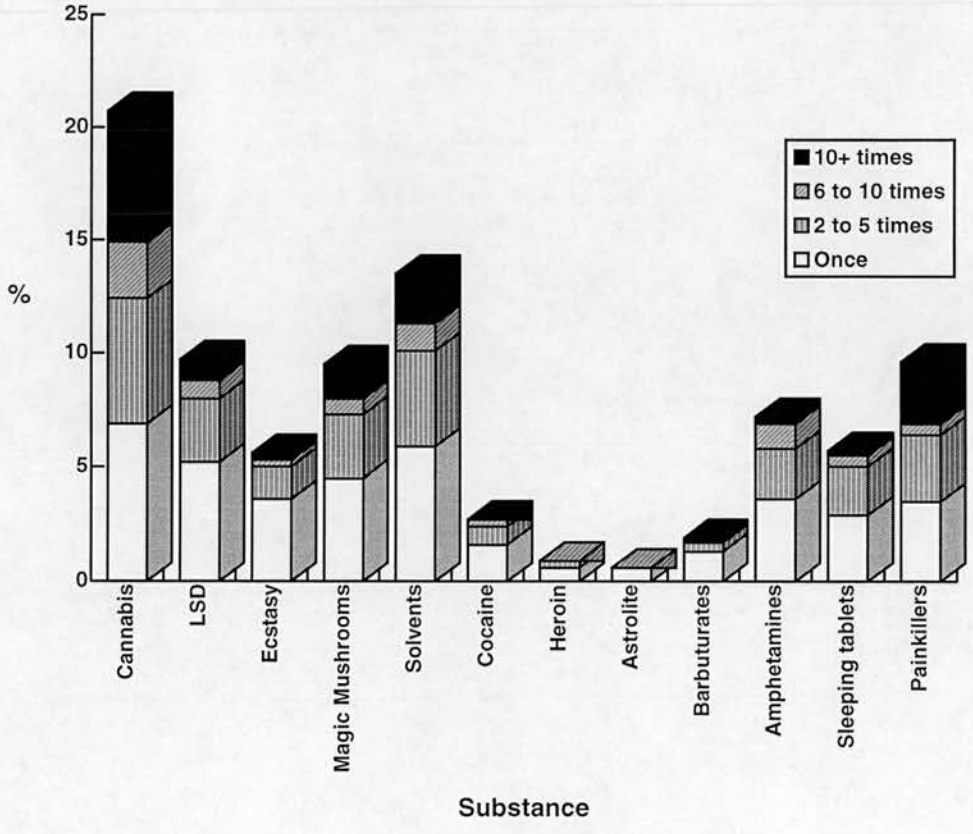
The other significant effect on the model came from an interaction between country and socio-economic status. This demonstrated that in Northern Ireland only, the smokers from lower income backgrounds were markedly more likely than their middle class peers to smoke 11 or more cigarettes each day (odds ratio increased by 10.412).

5.3 Illicit and Prescribed Drug Use

Overall, 368 respondents (30.1% of Scottish pupils and 32.7% of Northern Irish respondents) claimed to have used at least one of the drugs in the list of illicit and other prescribed substances at least once. The survey instrument made it clear that this referred to 'recreational' drug use and excluded the use of drugs as prescribed by medical practitioners. Thus 'prescribed drug use' in this context refers to drugs taken for fun. The proportion of drug users includes the seven people who claimed to have tried the fictional drug 'Astrolite'. (Coggans et al 1990 previously employed this enterprising strategy as a check on the validity of answers.) These seven respondents were subsequently excluded from further analysis in this section.

The most widely used illicit drug was cannabis which 20.4% respondents reported having used at least once. Solvents had been used by 13.4% of the study group. 'Magic mushrooms' (e.g. Fly Agaric, Liberty Cap) were also popular - 9.4% of respondents had used them at least once. Interestingly, even though Ecstasy (MDMA) was the recent focus of a mass media 'panic' only 5.5% of respondents (65 pupils) claimed to have taken it. Full details are presented in Figure 5.IV.

Figure 5.IV: Details of use of illicit and prescribed drugs



The responses to the drug questions were dichotomised into 'ever taken' and 'never taken' and the subsequent variable subject to logistic regression analysis. The findings are elaborated by Table 5.VII (Appendix B). Although country on its own did not emerge as a main significant predictor of drug use, it did become significant when combined with socio-economic status. Thus, although in both countries, those pupils from schools

in less affluent localities were more likely to have experimented with at least one drug, this difference was twice as great in Northern Ireland as in Scotland (odds ratio increased by 1.968). Logistic regression analysis also confirmed that males and older respondents were markedly more likely to have ever taken one of the drugs. The odds of younger males having used drugs were 15 times greater than those for younger females[1]. However, this difference was less for older females and for those who also drank alcohol. Thus, although the odds of male drinkers ever having used illicit drugs were four and a half times those of abstainers, this difference was increased by a factor of 4.437 for female drinkers.

It was then decided to cluster the respondents to determine if it was the same people who were experimenting with a wide range of drugs or if there were different sub-groups of drug users. Hierarchical cluster analysis on a random sample of 10% of the total cases revealed that three clusters would provide the optimum solution. K-means cluster analysis was then conducted on the whole data set, with respect to degree of drug use. The membership details of the three clusters are given in Table 5.VIII below.

Table 5.VIII: Details of drug use cluster membership

Cluster Number		Number of respondents	%
1		790	69.1
2		287	25.1
3		66	5.8
Total		1143[2]	100%

[1] Gender effect: 1/0.065=15.385

[2] This total does not add up to 1172 because of the incidence of missing answers, and because those who claimed to have tried astrolite were excluded.

These groups were then cross tabulated with reported drug taking behaviour. It emerged that the vast majority of those in group one had never tried any drugs. The members of group two were likely to have experimented with a limited selection on only a few occasions. Cannabis, ecstasy, LSD, amphetamines and painkillers/tranquillisers featured in their lists. The third group, however, contained those respondents who reported regularly using all of the above drugs, but who had also used a selection of the other substances, such as barbiturates, heroin and cocaine. These groups were given the respective labels 'non-users', 'limited use' and 'varied use'. The three groups were fitted into a log linear regression model, together with the predictor variables to determine if they differed with respect to demographic composition. Drinking status was also included to discover if drinkers were more likely to belong to any particular group. The results of this analysis are presented in Table 5.IX (Appendix B).

As can be observed from the odds ratios in Table 5.IX, the predictors discussed in relation to the dichotomous measure of drug taking also emerged in this model. Accordingly country, age and religious affiliation were shown to be significant main predictors of type of drug using behaviour. In relation to country, it can be seen that the Northern Irish pupils were more likely than those living in Scotland to be non-users. On the other hand, a significant interaction with socio-economic status revealed that those respondents attending schools in less affluent areas of Northern Ireland were the most likely country/socio-economic status group to have used a wider variety of substances (e.g. odds ratio of varied use increased by 10.924). The odds of belonging to the limited use category were increased for respondents from less affluent areas in both countries. As with the previous measure of drug use, older respondents were not only more likely to have used drugs at all, but were also more likely to have experimented with a wider variety of illicit substances and to have done so on several occasions.

With reference to religious affiliation, the odds ratios indicate that those respondents attending Protestant or non-denominational schools (odds ratio increased by 1.745), especially females (odds ratio further increased by 1.502), were much more likely to have not used drugs at all, and significantly less likely to be classed in the 'limited use' category. However, this latter effect was apparent only for the 11-12 year olds; the denominational difference disappeared amongst the older respondents.

Once again, it was shown that drinking status had the most powerful predictive effect amongst the variables under consideration. The odds ratios in Table 5.IX show that drinkers were much less likely than those who abstained from alcohol to belong to the non-users cluster (odds ratio increased by 0.438). This effect was increased for those from Northern Ireland (interaction odds ratio = 0.700) and females (interaction odds ratio = 0.522), but was not as strong amongst the older pupils or amongst those attending Protestant or non-denominational schools. It was also revealed that the odds of being classified a 'limited user' were increased seven-fold by also being a drinker. However, the most dramatic effect was observed in relation to membership of the 'varied use' category. The odds of drinkers belonging to this group as compared to not using drugs were a staggering 5135 times those of their abstinent peers[1].

[1]Although this high odds ratio suggests a dramatic effect in relation to drinking status, care should be taken in assessing its exact magnitude. As the numbers of respondents in some of the higher interaction cells are likely to be small, the method of analysis used may over-emphasise any differences present.

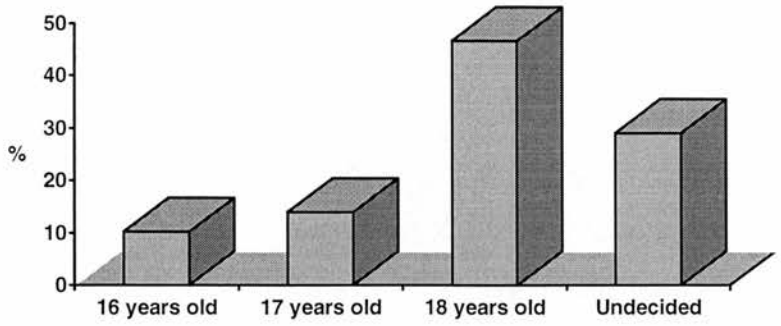
5.4.1 Plans for the future

In order to measure respondents' aspirations for their own futures, they were asked two questions: 'At what age do you think you will leave school?' and 'What would you like to do when you leave school?'. In addition, it was thought that these questions would provide an indication of how positive each respondent's attitude to school was.

The first question required respondents to place a tick in one of four categories: 16 years old, 17 years old, 18 years old, or for those who had not yet decided, a 'don't know' category. The second question, on post-school plans, allowed for answers to be provided in an open format.

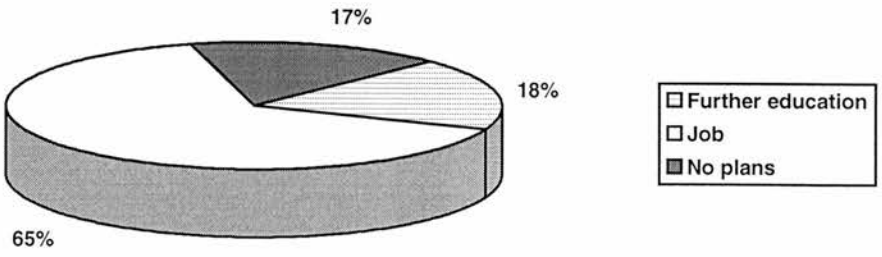
Most respondents either indicated that they wished to remain in school until they were 18 years of age (46.8%), or did not know when they would leave school (29.1%). This left minorities replying that they planned to leave school at either 16 (10.2%) or 17 (14%) years old. These figures are illustrated graphically by Figure 5.V .

Figure 5.V: Age at which intending to leave school



The responses to the second question were coded by the researcher into three categories: those respondents wishing to continue to further education (encompassing university and college); those who wished to secure employment after leaving school, and those who currently had no plans. As can be seen from Figure 5.VI below, two thirds of respondents planned to get a job when they left school, with roughly equal proportions reporting that they would either like to continue with their education (18.3%) or had not yet decided what they would do after leaving school (16.6%).

Figure 5.VI: Plans after leaving school



It had been expected that there would be an association between those who did not know when they would leave school and those who had no plans for what they would do after their time in secondary education. Although almost half of those (46%) who had not decided when they would leave school also said that they had not planned what they were going to do, a substantial minority (30%) of those undecided on the exact age they would leave school had planned to get a job when the occasion came. Attempts to perform correlation calculations on these data produced no significant associations. Therefore it was considered prudent to analyse the answers to each of these questions separately in trying to determine their relationships with the demographic predictor variables and with use of alcohol, tobacco and illicit drugs.

Three models were constructed to further analyse the answers to each of these questions. The first model examined the effects of the main variables under consideration, but also included drinking status (drinkers vs. abstainers). The second and third models replaced drinking status with smoking status (smokers vs. non-smokers), and drug use status (had used vs. not used) respectively. It was not thought practicable to include these three measures in the same model, as has been shown in Sections 5.2 and 5.3, there is a high level of association between them. Furthermore, the computer processing time used to calculate each log-linear regression model is greatly increased with every additional variable it is required to assess. Despite this methodological compromise, with very few exceptions, it was shown that drinking status, smoking status and degree of drug use produce very similar effects under the models. Thus, in the explanations to follow,

attention will be focused on the first model in each set of three, i.e. the one to include drinking status. However, for sake of completeness, all the models are contained in Appendix B.

5.4.2 Predictors of school leaving age

Dealing firstly with the age at which respondents were intending to leave school, it can be seen from the odds ratios displayed in Tables 5.X a, b and c (Appendix B), that all the main predictor variables, including drinking, smoking and drug use status significantly affected the age at which the respondents wished to leave school.

The results of the model including drinking status are presented in Table 5.Xa. The significant odds ratios reveal that those respondents from Northern Ireland (odds ratio increased by 3.861), pupils attending schools in poorer areas (odds ratio increased by 12.642) and drinkers (odds ratio increased by 4.397) were all more likely than their respective counterparts to report that they wished to leave school at 16 years of age, and were less likely to want to delay doing so until they were 17 or 18 years old. Moreover, they were also less likely to be undecided. Gender and denomination significantly affected some of the categories, with females being more likely than males to report wanting to leave school when they reached 17 or 18 years of age. Moreover, female drinkers were not as likely as their male peers to say that they wished to leave at 16 years of age. Respondents attending Protestant or non-denominational schools were more

likely than their Roman Catholic counterparts to wish to stay on at school until they were 18, or not yet to have decided their school leaving age (odds ratios were increased by a factor of 2 in both cases).

It had been thought that more of the younger age group would be uncertain as to when they would leave school. However, from Tables 5.IX a, b and c, it can be seen that the situation was more complicated. Interesting interactions were observed between age and drinking status (and subsequently between age and smoking status, and illicit drug use status) with reference to wishing to leave school at 16 years of age. These indicated that although for both age groups, drinkers were more likely than abstainers to want to leave school as soon as possible (odds ratio increased by 4.397), this effect was much more marked for the older age group (odds ratio further increased by 3.912). This effect was replicated for smoking (odds ratio = 5.104) and use of illicit drugs (odds ratio = 2.751). Thus, respondents aged 14-16 who either drank, smoked or had used illicit drugs constituted the groups most likely to wish to leave school at the minimum legal age.

In Table 5.IX b, the results of the model which includes smoking status are displayed. The results are fairly similar to the model described above, in that the main effects due to country, age, gender and socio-economic status are replicated. In addition, the significant interaction between smoking status and country showed that although smokers in Scotland were markedly less likely than non-smokers to want to leave school as early as possible (odds ratio increased by 0.072), this effect was modified in Northern Ireland[1].

[1]CO2xSM2xCO2*SM2 = 3.593x0.071x1.840 = 0.524.

The interaction between age and smoking status has already been discussed in the preceding paragraph. Additionally, older smokers in particular were significantly more likely to belong to the 'undecided' category than their colleagues who did not smoke.

An age by gender interaction, which did not appear in the previous model, also proved to significantly affect stated school leaving plans. This can be interpreted as females aged 14-16 who smoked were more likely than non-smokers of their own sex, or than all males to want to leave school aged 16 and markedly less likely to wish to delay this until they reached 17 or 18 years of age. In addition, this group was also less likely to not have made up their minds on this matter.

Finally, Table 5.IX c considered the effect of drug use status on the distribution of school leaving ages. Once more, all the main variables, with the exception of gender, significantly affected the model, and produced the same effects as described for the previous two models. As regards drug use, those who had used illicit drugs were less likely to want to leave school aged 17 (odds ratio = 0.352) or 18 (odds ratio = 0.278) and also less likely not to have decided when they would leave school (odds ratio = 0.299), i.e. they were more likely to want to leave school aged 16. Students aged 14-16 who had used drugs were significantly more likely to want to leave school when they reached 16 years of age. In addition, the finding stated previously that those from working class areas were more likely to want to leave school as soon as they could was strengthened amongst those who had used drugs (odds ratio increased by 1.411).

5.4.3 Predictors of post-school plans

The second question relating to future intentions examined respondents' post-school plans. As was stated earlier, these were categorised into three groups - 'further education', 'job', 'no plans'. This variable was then examined in a log-linear regression model. As with intended school leaving age, three separate models containing firstly drinking status and then in turn smoking and drug taking status, were constructed. The results of these models are presented in Tables 5.XI a, b and c (Appendix B).

The odds ratios in Table 5.X a show that once again, all the main predictor variables did have some effect on the model. It was found that those respondents from Northern Ireland (odds ratio increased by 2.048), particularly those aged 14-16 (odds ratio further increased by 1.416), were more likely to wish to continue their education after leaving school. This was also the case for those attending Protestant or non-denominational schools (odds ratio increased by 1.806) and for females (odds ratio increased by 1.735). A significant interaction between these two variables showed that females attending Protestant or non-denominational schools were the group most likely to want to attend for further education (odds ratio increased by 1.514). Furthermore, females were also less likely to say that they had no post-school plans. Respondents aged 14-16 were less likely than their younger counterparts to say that they wished to obtain a job after leaving school or to say that they had no plans.

Respondents attending schools in less affluent areas in both countries were less likely to want to continue their education to a tertiary level, and more likely to report that they wished to find employment or not yet to have decided. Interestingly, drinkers were more likely than their abstinent colleagues to want to continue their education. The odds of drinkers wanting to go into further education were 2.5 times those of those who did not consume alcohol. This effect was substantially strengthened by a factor of 4.66 amongst the older age group. In fact this extremely strong interaction effect meant that older drinkers were more likely to want to continue their education post-school than to take a job. However, the drinker effect was not as strong in Northern Ireland as in Scotland, and was also shown to be stronger for males than for females. Thus, it may be that although drinkers indicated that they wished to leave school early, this did not necessarily imply that they also wished to terminate their education.

When smoking status was introduced into the model (Table 5.XIb), the main effects remained similar to those just described. An exception was that smokers were shown to be much less likely to want to continue their education after leaving school (odds ratio increased by 0.028), although this tendency appeared to be moderated by age. The odds ratios (increase of 2.588) indicate that younger smokers were much less likely than older smokers to want to continue with their education.

Some very interesting findings in this model were provided by the interactions between country, socio-economic status, smoking status and plans after leaving school. These

showed that the differences between smokers and non-smokers in Northern Ireland were much greater than in Scotland for both middle class and working class respondents. Thus when the odds ratios were calculated for each sub-classification, it was shown that the group most likely to want to continue to tertiary-level education consisted of non-smokers from more affluent areas in Northern Ireland. Conversely the interaction group least likely to wish to continue with education comprised smokers attending secondary schools in working class areas in Northern Ireland[1].

The final model in this set included drug use as one of the predictor variables. The results of this model can be seen in Table 5.X c. Once again the predictor variables affected the model mainly in the ways already seen for the previous two models. Another strong interaction was observed between age, gender and drug use which showed that younger females who had used illicit drugs were least likely to wish to continue their education. However, it was also shown that older pupils, particularly females, who had used illicit drugs were significantly more likely than their peers who had not tried any of these substances to wish to progress to tertiary education (interaction odds ratio = 3.854).

[1] Details of relative odds:

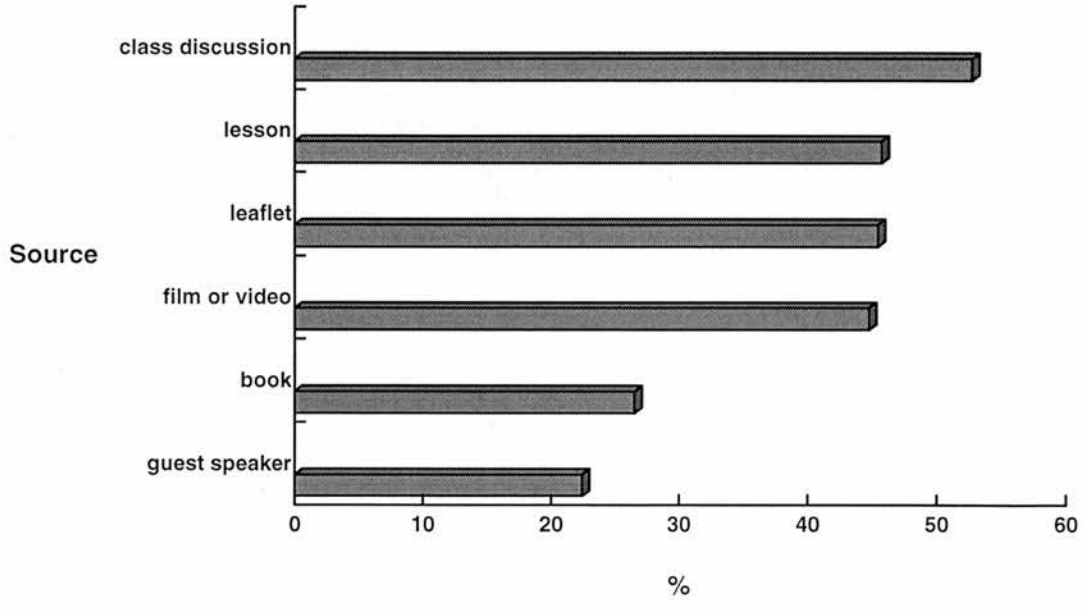
	Scotland		N. Ireland	
	Non-smoker	Smoker	Non-smoker	Smoker
Middle-class	1	0.028	1.833	0.029
Working - class	0.440	0.003	0.277	0.0001

5.5 EDUCATION RELATING TO ALCOHOL, TOBACCO AND ILLICIT DRUGS

5.5.1 School-based alcohol education

In order to obtain an impression of the scope of educational information relating to substance use, the respondents were asked to fill in on a grid which sources they had experienced in firstly the school setting and secondly outside school. The former list included film or video, leaflet, guest speaker, lesson, book and class discussion. The following order of prevalence was revealed.

Figure 5.VII: School-based sources of alcohol education



Thus from Figure 5.VII it can be seen that the most popular source of school-based information on alcohol came from class discussions. Over half of the study group (52.8%) had experienced alcohol education in this form. The use of leaflets (45.5%),

lessons given by teachers (45.8%) and film and videos (44.8%) were also widespread. Overall, 78% of the study group (914 respondents) reported having received educational information from at least one source within school.

It was thus decided to divide the respondents into those who reported receiving information on alcohol from at least one school source and those who reported no school-based alcohol education. Logistic regression was conducted on these groups, with respect to country, age, socio-economic status and religious denomination. Given that one of the main aims sometimes identified for alcohol education is to encourage either later onset of use or more sensible drinking, the tripartite measure of drinking status[1] was also included in the analysis as a potential predictor variable. Separate models were constructed for males and females. The results can be seen in Tables 5.XII and 5.XIII (Appendix B).

Firstly for males (Table 5.XII), of the demographic variables, age proved to be the strongest predictor of whether or not a subject had received any school-based alcohol education. The odds of the respondents in the older age group reporting such information were more than six times than those of the 11-12 year olds. Nevertheless, regardless of age, respondents in Northern Ireland were significantly more likely to have received information on alcohol in the school context than their Scottish counterparts (odds ratios increased by 1.542). As regards drinking status, an interesting interaction between heavy drinking males and country was observed. This showed that in Scotland, the odds of males in the heavy drinking category having received information on alcohol were five times those who abstained from alcohol. By contrast, in Northern Ireland the odds of heavy drinking males having received school-based alcohol education were reduced by a

[1] Abstainers; Light-moderate drinkers; Heavy drinkers. Definitions are based on classifications first encountered in Chapter 4, Section 4.3.4.

factor of five. Finally, males attending Protestant or non-denominational schools in both countries were also more likely to have received such information than their Roman Catholic peers (odds ratio 1.881: 1).

For females (Table 5.XIII), country and denomination were observed as the strongest predictors of school-based alcohol education - females based in Northern Ireland and attending Roman Catholic schools displayed odds which indicated they were more than four times as likely as those in Scotland to have experienced alcohol education in school. Although females attending Protestant schools in Ulster were also more likely than their counterparts in Scotland who attended non-denominational schools to have experienced alcohol education in school, this difference was not so great (i.e. modified by odds ratio of 0.277). The magnitude of these interaction effects also meant that, in Northern Ireland, Roman Catholics were more likely than Protestants to have reported some degree of experience of school-based alcohol education, but that this effect was reversed in Scotland. Drinkers, in either category, were more likely than abstainers to recall having received alcohol education in school.

Age and socio-economic status were both involved in a significant interaction with denomination. This showed that older females attending Roman Catholic schools in predominantly working class catchment areas constituted the group most likely to have received alcohol education in school. In contrast, their younger colleagues were least likely to have had this experience.

5.5.2 School-based tobacco and drugs education

The respondents were also asked about school-based sources of tobacco and drug education. The orders of prevalence proved to be the same as for alcohol. This is not surprising given that these subjects may well be approached simultaneously by schools. Fuller details of school-based sources of education relating to smoking and other drugs are given in Figures 5.VIII and 5.IX below.

Figure 5.VIII: School-based sources of tobacco education

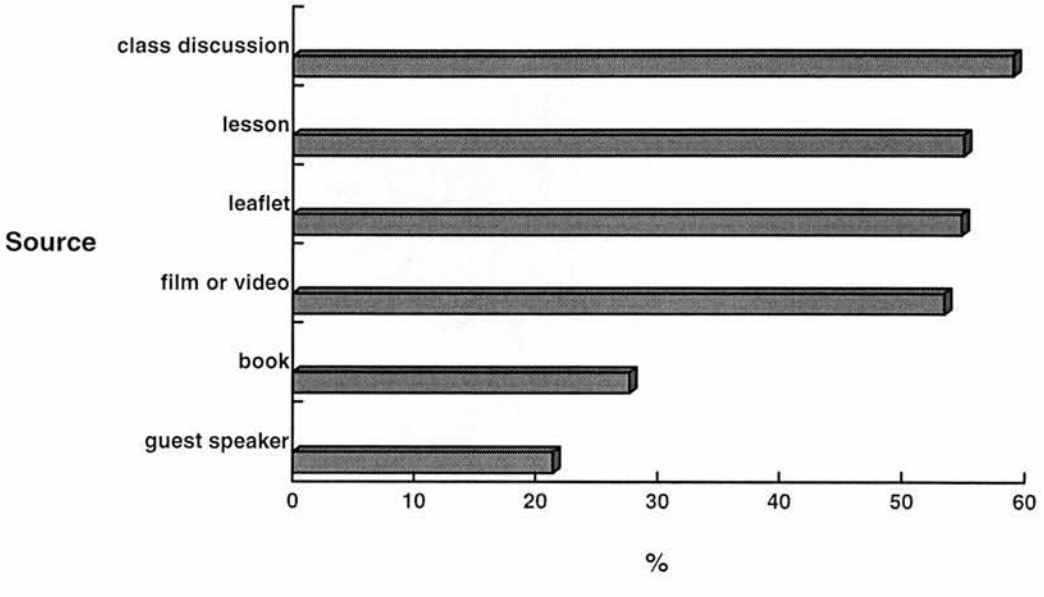
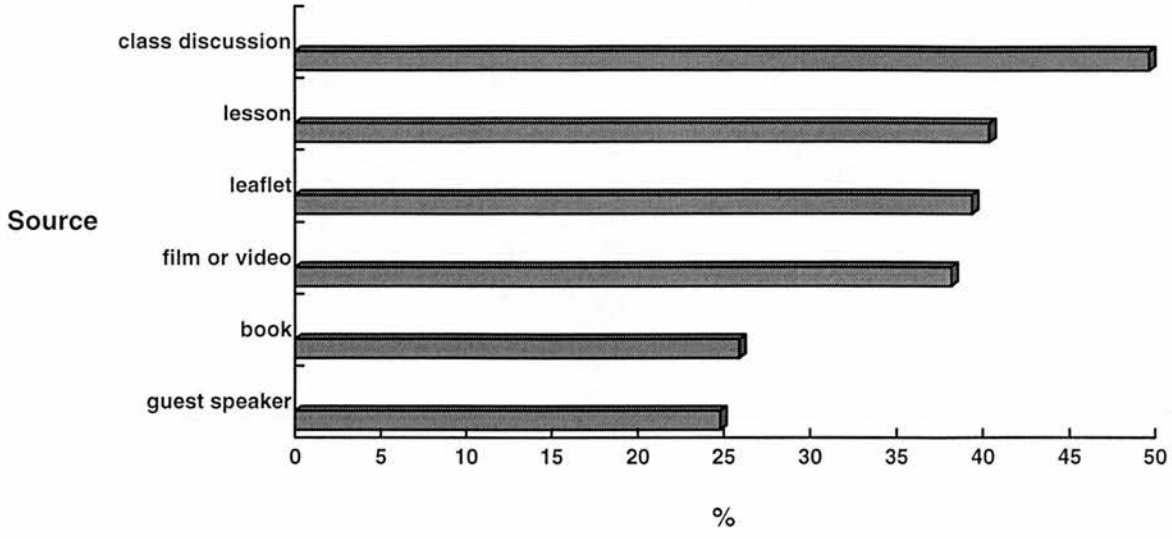


Figure 5.IX: School-based sources of drug education



It is interesting to note the greater discrepancy between class discussion and other methods of information dissemination observed for drugs as compared to alcohol and tobacco. It could be speculated that such discussions might have arisen in the context of other discussions on alcohol and tobacco. Overall, 967 respondents (82.7%) had received information on tobacco smoking from at least one school source; the corresponding figure for drug education was lower at 837 respondents (71.4% of the study group). Once again these dichotomous measures of education were entered into separate logistic regression models. The model on tobacco education included smoking status (smokers vs. non-smokers) in its predictors, and the one for drug education featured extent of drug use (users vs. non-users). The results of these models are presented in Tables 5.XIV and 5.XV (Appendix B).

Table 5.XIV shows the relative odds of having school-based education on tobacco smoking. The main predictor of smoking education was shown to be smoking status.

Those respondents who reported being current smokers displayed odds of having received information on smoking in school which were three times those of their non-smoking peers. It was also shown that the older respondents were more likely to have had experience of school-based education on smoking than the 11-12 year olds. This differential was wider in Northern Ireland than in Scotland. As with alcohol, males attending Protestant or non-denominational schools were more likely than those attending schools affiliated to the Roman Catholic church to have received information in school (odds ratio Protestant: Roman Catholic = 2.482:1). The interaction between gender and denomination indicated that this effect was increased by a factor of 2.757 for females[1]. Moreover it also indicated that significant differences existed only between Protestant males and females - females attending Protestant or denominational schools were more likely than their male colleagues to report having received information on smoking at school. Finally, the interaction between denomination and socio-economic status showed that the denominational difference only existed for those respondents, of both sexes, in wealthier school catchment areas.

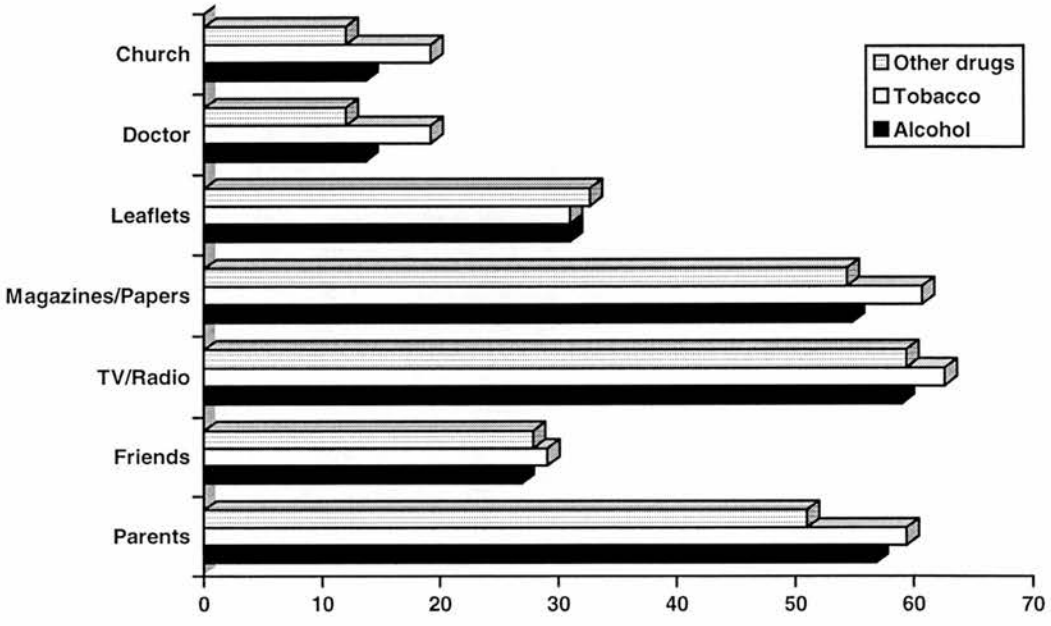
Table 5.XV displays the relative odds of having experienced school-based education on drugs. Country, age and denomination were all represented in the model both as main effects and as components of interaction effects; socio-economic status was involved in interaction effects. Interestingly, drug using status and gender did not prove to significantly affect the model. As regards country, denomination and socio-economic status, these were all involved in a three way interaction which showed that Northern Irish Protestants attending secondary schools in less affluent areas were the interaction group most likely to have experienced school-based education on drugs, but that Northern Irish Roman Catholics from poorer areas were the least likely. Thus the

[1]Apart from females in Northern Ireland, where it was shown that those attending Roman Catholic schools were more likely than their Protestant counterparts to have received smoking education in school.

greatest difference in experience of school-based drug education was observed between Roman Catholics and Protestants attending school in poorer areas of Northern Ireland[1]. Turning finally to age, once again the older respondents were significantly more likely than the younger ones to have received information on drugs in the school setting. This effect was markedly more enhanced for those pupils from a working class background.

5.5.3 Education outside the school setting

Figure 5.X: Education on alcohol, tobacco and other drugs from sources outside school



The respondents were also asked to indicated from which sources outside school they had received any information concerning alcohol, tobacco and other drugs. As can be

[1] The relative odds ratios are as follows:

	Scotland		N. Ireland	
	RC	Non-denom	RC	Protestant
Middle-class	1	2.527	2.740	2.063
Working-class	1.626	2.005	0.777	11.465

seen from Figure 5.X, the most popular sources were television or radio, magazines and newspapers and also from parents. Interestingly, only just over a quarter of respondents claimed to have obtained information from their fellow pupils and friends. The current government campaign (1996) in the United Kingdom is urging to parents to talk to their children about drugs before they obtain (what is feared will be incorrect) information from their friends. About a third of the study group had received some information through reading leaflets and between eight and 20% had received information either from their doctor or from the church.

It was then decided to ascertain whether it was the same respondents who were reporting alcohol and tobacco and drug information from all the source categories or whether some received more information from school than other sources. Hierarchical cluster analysis was conducted on repeated random samples of 10% of the cases. This process revealed that three clusters would provide the optimal classification. All cases were subsequently subject to K-means cluster analysis, with reference to the education variables. The breakdown of the clusters was as follows: the first contained 265 respondents, the second, 295 and the third 555 respondents. When the characteristics of these groups were measured against the education variables, it emerged that Group 1 were the most likely to have received information from all sources. Group 2's sources of information came pre-dominantly from the school context. Group 3 contained those respondents who reported receiving information from fewer sources than their colleagues in the other Groups; the only exceptions to this were that those in Group 3 was just as likely as Group 2 respondents to have received information on substance use from parents, friends, doctor and the church. Titles and other cluster details are elaborated in Table 5.XVI below.

Table 5.XVI: Clustered sources of educational information

Cluster number		Title	n	%
1		Multiple sources	265	23.8
2		School dominated	295	26.5
3		Few sources	555	49.8
Total			1115[1]	100%

Thus it can be seen that the extent of information on substance use decreased from Group 1 to Group 3. Log-linear regression was then employed to determine the demographic characteristics of these groups. The results are presented in Table 5.XVII (Appendix B).

From the relative odds presented in Table 5.XVII, it can be seen that all the demographic variables affected the membership of the clusters. As the previous analyses had suggested, those respondents from Northern Ireland were more likely than their Scottish counterparts to fall into the 'multiple sources' category (odds ratio increased by 3.184). In addition, this analysis also shows that they were also significantly less likely to be in the 'few sources' group (odds ratio increased by 0.318). Extent of information also increased with age - those aged 14-16 were significantly more likely than the younger aged group to have received information from a variety of sources, and significantly less likely to belong to the two other categories. Males were 'better' informed than females - the odds of the latter belonging to the 'few sources' category were almost twice as likely of those for males.

[1] The total does not add up to 1172 because of the high incidence of missing values. This could have been due to the fact that this was the final group of questions contained in the survey instrument, and that some respondents ran out of time and did not complete it.

The denomination effects observed in the previous analyses were also replicated in this analysis of clusters - those respondents attending Protestant or non-denominational schools were more likely than their Roman Catholic peers to belong to the 'multiple sources' group (odds ratio increased by 6.488) and less likely to belong to the 'few sources' group (odds ratio increased by 0.162). However, the interaction between denomination and country shows that denominational differences were greater between Roman Catholics in the two countries, than between those attending Protestant schools in Northern Ireland and non-denominational schools in Scotland. (odds ratios modified by 0.484 for multiple sources, and by 2.898 for few sources). Finally, those attending schools in less affluent areas were markedly less likely than their wealthier peers to belong to the group obtaining information only from limited sources.

The extent of information was then correlated with quantity of alcohol consumed on most recent drinking occasion. For males a weak negative association was observed (Pearson's R=-0.16; $p<0.001$) indicating that consumption increased with level of information on alcohol. This association was slightly stronger for females (Pearson's r=-0.25; $p<0.001$). When those who abstained from alcohol were removed from the calculations, the associations observed were stronger. (males: Pearson's r=-0.22, $p<0.001$; females: Pearson's r=-0.27, $p<0.001$.)

Weak negative associations were also found when extent of information was correlated with quantity of cigarettes smoked (Pearson's r=-0.13, $p<0.05$)and extent of drug use (Pearson's r=-0.15, $p<0.001$). However, it is important to note that this variable merely measured frequency of exposure to substance-related information, and that the quality of such information cannot be inferred from the findings presented here.

5.6 Summary and Discussion

The purpose of this chapter has been twofold: firstly to address one of the key aims of the study by investigating the prevalence of tobacco and drug use amongst young people in Scotland and Northern Ireland, giving some consideration to similarities and differences between the countries and how these may be mediated by the other demographic variables of interest. The second objective has been to determine the nature and extent of association of youthful drinking in the two countries with other drug use. An additional area of interest has focused on how these indicators of 'problem' behaviour are affected by respondents' intentions for their future education and also their experience of alcohol and drug related education.

5.6.1 Drinking consequences

The respondents were asked to indicate how often, if ever, they had experienced a range of alcohol-related consequences. Some of these, such as having a good time, were positive. The remainder, which included such items as vomiting, suffering from a headache and getting into trouble with parents, could be considered to represent less attractive facets of alcohol use.

The majority of drinkers did report that they at least occasionally associated positive experiences with drinking: only around one third indicated that they never felt happy,

had a good time or felt more at ease with friends. In contrast, the experience of negative consequences was fairly limited, with only one in eight drinkers reporting that they always or often had a headache, fell over or suffered a memory loss. Even fewer reported ever vomiting, feeling dizzy or faint, trying other drugs, becoming involved on a fight, or getting into trouble with their parents. Nearly nine tenths of drinkers reported that they had never been too ill to attend school.

Not surprisingly, the positive consequences were strongly inter-related. However, moderately strong associations were also observed between having a good time and other, more negative experiences. It may be that having a hangover etc. did not impair these respondents' experiences of drinking, or it may be merely that some people experience more consequences than others. A rather more surprising finding was that levels of drinking, as measured by last occasion's alcohol consumption were fairly weakly associated with experience of consequences. Previous surveys (e.g. Plant, Peck and Samuel 1985) had noted a stronger link. Jessor and Jessor (1977) also found that 'problem drinkers' were more likely to experience negative consequences, such as violence and drug use. Interestingly, in the present study, experimentation with illicit drugs whilst drinking was only moderately associated with heavier drinking for both males and females.

When these answers were subjected to cluster analysis, two groups emerged. One was characterised by fairly uneventful drinking, the second contained those drinkers who

reported frequently experiencing alcohol-related consequences - both positive and negative. Marsh, Dobbs and White (1986) also noted that the same people reported experiencing both positive and negative alcohol-related consequences. Logistic analysis of these two groups revealed that for both males and females, being classed as a heavy drinker significantly increased the odds of belonging to the eventful drinkers group. Amongst males, 14-16 year olds attending Roman Catholic schools in Northern Ireland constituted the group most likely to have reported multiple drinking consequences. Furthermore, Northern Irish females from less affluent backgrounds were more likely than their wealthier counterparts to have experienced a variety of alcohol-related consequences. Thus, independently of drinking status these groups of Northern Irish young people were more likely to experience more drinking consequences. As was seen in Chapter 4, Section 4.3.4, females from less affluent areas of Northern Ireland were also more likely to be heavier drinkers.

5.6.2 Smoking

Lifetime prevalence

Overall, nearly 50% of the study group (575 respondents) had tried tobacco smoking. This proportion was fairly similar to, if slightly lower than, those obtained in the national surveys discussed in Chapter 2A, Section 2A.2.2 (Lader and Matheson 1991; Craig, Francis and McWhirter 1991). In line with these and other surveys of youthful smoking

(e.g. Currie and Todd 1992; Hendry et al 1993), a sharp increase with age was noted. However there was more of a difference between the two age groups in Scotland than in Northern Ireland.

In Northern Ireland only, females were more likely than males to have tried smoking. In Scotland, amongst middle class respondents it was the males who were more likely to have tried smoking. Moreover in Northern Ireland only, respondents from predominantly working class areas were more likely than their middle class counterparts to have tried smoking. Roman Catholics in both countries were more likely than those attending Protestant or non-denominational schools to have smoked. Despite these effects, it was shown that the strongest effect was the respondent's drinking status - being a drinker increased the odds of ever having smoked nearly eight times. It must be emphasised that this finding cannot be assumed to imply causality. Nevertheless, it was also shown, that among those respondents who both drank and had tried smoking, in the main drinking did start before smoking.

Current smoking

Less than 16% of the group were current smokers. As with lifetime prevalence this was lower than the percentage of current smokers found in the national surveys (Lader and Matheson 1991; Craig, Francis and McWhirter 1991). However, again it should be noted that due to differences in study design and methodology, exact percentages cannot be

compared. Nevertheless, this figure was identical to current smoking prevalence among 15-16 year olds in Scotland found by Hendry et al (1993) in their survey of young people's leisure habits in 1991.

The effects of age and gender were the same as had been observed for lifetime prevalence of smoking. Accordingly, respondents aged 14-16 were more likely than the 11-12 year olds to be current smokers, but this difference between the age groups was not as great in Northern Ireland as in Scotland. Additionally, although there were no differences between the likelihood of Scottish males and females smoking, females in Northern Ireland were more likely than their male counterparts to be current smokers. The absence of a gender effect in Scotland is supported by other survey evidence. For example, although Hendry et al (1993) found that males were less likely to have ever tried smoking, proportions of current smokers did not differ significantly between the sexes. Moreover, in Currie and Todd's (1992) study, only amongst pupils aged 13 were females more likely than males to smoke - at all other ages the gender differences were not significant. However, the patterns obtained from the national surveys are in direct contrast to those observed in the present study. According to these surveys, current smoking in 1990 was more prevalent amongst young females in Scotland, England and Wales. On the other hand, no difference between the genders emerged in Northern Ireland. It is therefore impossible to state with certainty what the true pattern actually is. Nevertheless, the findings in the present study support research carried out amongst

adults in Northern Ireland, where it was shown that young females were more likely than young males to be smokers (Policy Planning and Research Unit 1992)[1].

A further factor affecting the likelihood of being a current smoker was related to socio-economic status. Those from less affluent backgrounds were more likely than their middle class counterparts to smoke. This was consistent with the conclusion reached by Conrad, Flay and Hill (1992). These authors reviewed 27 studies on cigarette smoking and found that young people from lower socio-economic backgrounds exhibited an increased propensity to smoke. Although in the present study this effect was significant in both countries, it was doubled in Northern Ireland. It is also noted that in both countries this effect was more marked amongst the younger age group. As with lifetime prevalence of smoking, those pupils attending Roman Catholic schools were more likely to be current smokers.

Nevertheless, once again the main effect was seen to be the respondents' drinking status - the odds of drinkers being current smokers were 15 times those of abstainers. In fact only four respondents who reported abstaining from alcohol claimed to smoke tobacco. As was discussed in Chapter 2A, Section 2A.2.2, the association between youthful drinking and smoking has consistently been borne out by survey evidence (Goddard 1989; Craig, Francis and McWhirter 1991; Green at al 1991; Currie and Todd 1992).

[1] Full details are provided in Chapter 2A, Section 2A.2.1.

Thus, although country did not emerge as a main predictor either of lifetime or current smoking, it was shown that the increase in smoking prevalence that would normally be expected with increase in age was reduced in Northern Ireland. Moreover the expected effects of gender (females being more likely to smoke) and of socio-economic status (young people from less affluent backgrounds being more likely to smoke) were much more marked in Northern Ireland.

Cigarette consumption

Most smokers reported consuming between 2 and 5 cigarettes each day. Roman Catholic respondents, especially females, were shown to be heavier smokers. Thus, not only were Roman Catholics more likely than those attending Protestant or non-denominational schools to be smokers, but even among the smokers they were likely to be heavier consumers of cigarettes. Additionally, it was found that in Northern Ireland only, working class respondents were heavier users, being more likely to report smoking 11 or more cigarettes each day. Accordingly, the Northern Irish young people appeared to have adopted the patterns observed among adults whereby those from manual classes are not only more likely to smoke, but are also heavier smokers. (Chapter 2A, Section 2A.2.1).

5.6.3 Illicit drug use

Data collected in regard to illicit drug use were extremely limited at the request of some of the co-operating schools. However, the findings do indicate that at least casual experimentation was by no means uncommon amongst the study group.

Overall, 32% (368) respondents claimed to have used at least one of the drugs in the list of illicit and other prescribed drugs at least once. Cannabis was the most widely used drug, and solvents had been tried by more than one eighth of the group. Respondents from less affluent school catchment areas, especially in Northern Ireland, were more likely than their respective counterparts to have tried at least one drug. Males were more likely than females to have tried drugs, but this gender difference was less for females aged 14-16 and also for drinkers. Not surprisingly, likelihood of drug use was shown to increase with age.

Moreover when respondents were clustered according to their use of the various substances, older respondents were also more likely to have used a wider variety of drugs. The ambivalence seen in alcohol use among Northern Irish respondents was also observed here, with those in the Province being less likely than their Scottish counterparts to have used any drugs. On the other hand, respondents attending less affluent schools in Northern Ireland were the most likely group to have used a variety of substances. As regards religious affiliation, pupils attending Protestant or non-

denominational schools, especially females, were less likely to have tried any drugs at all. Nevertheless, the most powerful predictive effect on drug use was seen to be respondent's drinking status. Drinkers were much less likely never to have used any illicit drugs. However, the most dramatic effect was seen amongst the effect on varied use - being a drinker increased the odds of belonging to this group by a staggering factor of over 5000[1]. Thus drinking was even more strongly associated with use of illicit drugs than with smoking behaviour. In their follow-up study of teenagers in Lothian, Plant, Peck and Samuel (1985) also found that illicit drug use was more strongly associated with alcohol use than was cigarette smoking. These findings also lend support for the hypotheses underpinning 'problem behaviour theory' that young people who are heavier consumers of alcohol are also more likely to use illicit drugs (e.g. Jessor and Jessor 1977; Jessor 1987).

The number who claimed to have used drugs was notably higher than in any of the surveys reviewed in Chapter 2A (Section 2A.3), where it was shown that typically around 20% of young people in school-based surveys of drug use had tried any illicit drugs. It was also higher than the figures found by the Scottish and British Crime Surveys which included the age groups where drug use was most prevalent, i.e. 16-24 years old. Thus it may be that use of illicit drugs is increasing. Coggans and McKellar (1995) cite evidence to suggest that young people are adopting a more eclectic attitude to alcohol and drugs and will sometimes substitute illicit drugs for alcohol, depending on

[1] However, as stated in Section 5.3, caution should be attached to this extremely high odds ratio, as it may have been inflated because of the method statistical analysis employed.

availability and cost. Cost as a salient factor in choice of drug was also identified by Fast Forward (1994) in their survey of teenagers in Lothian.

The types of illicit drugs used were found to be similar to previous empirical studies. As a result, cannabis was the most widely used drug. The proportion who had tried Ecstasy (5.5%) was perhaps lower than expected. Certainly this figure was much lower than that reported by Anderson (1992). Over one fifth of 200 16-30 year olds interviewed in her Scottish quota survey reported having tried Ecstasy. This may again reflect cost factors - the Fast Forward (1994) survey found that Ecstasy was perceived to be too expensive by most teenagers. The types of drugs used by various groups were not broken down to any great extent. However, Northern Irish respondents were significantly more likely than their Scottish counterparts to have used solvents. For example, among the 14-16 year olds, 21.7% of males in Northern Ireland claimed to have tried solvents at least once, compared to 13.8% of Scottish males. The proportion for Northern Irish females was even higher at 32%, compared to only 14.9% in Scotland.

One finding from the present study, that has not been reported in other studies of adolescents, is that those living in poorer areas were more likely to have used drugs. In contrast, Hendry et al (1993) found that 32% of young people from professional or intermediate classes claimed that some of their close friends used drugs, compared to 23% of those from semi-skilled or skilled manual social classes. Obviously, however,

these data are not directly comparable as no questions were asked about respondents' own drug use.

5.6.4 Future Intentions

In relation to intended school leaving age, nearly half the respondents (46.8%) indicated that they wished to remain in school until the age of 18. Some 29% had not yet decided when they would leave school, and 10% and 14% wished to leave when they were 16 and 17 respectively. In terms of their plans after they had finished school, two thirds planned to proceed straight to employment, just under a fifth stated they would like to continue their education, and 16.6% had no plans.

Both these variables were significantly affected by the main demographic predictor variables and by drinking, smoking and drug use status. Firstly with regards to school leaving age, it was shown that respondents from Northern Ireland (particularly males) and pupils attending schools in poorer areas were more likely to want to leave school at 16. In their survey of Scottish young people. Hendry et al (1993) also found that: in terms of attitudes towards school, young women were more likely to conform to the school culture, as were those from non-manual social class backgrounds. Additionally in the present study, respondents attending Protestant or non-denominational schools were more likely to wish to stay on to 18 or were undecided.

Those respondents who had consumed alcohol, who were current smokers or who had used any illicit drugs were more likely than their non-using colleagues to want to leave school aged 16. Interestingly, these effects were much stronger for the older age group than for the 11-12 year olds. Older smokers were also significantly more likely to be undecided as to when they would leave school. Female smokers in particular were more likely to want to leave school as early as possible. This result is of note in that the implications are that female smokers were the group least likely to want to stay on at school post minimum leaving age, and therefore less inclined to attain higher academic qualifications at higher or advanced level. If this pattern were to be replicated in a national, larger scale, study, it would add to the fuel to the public health concern about the lack of decline in onset of smoking amongst young women previously outlined in Chapter 2A. Furthermore, as was shown in Section 5.2, almost all those who smoked also drank, so it may also be noted that the smoking model was actually considering a subset of drinkers, a finding which again has implications for health education. Finally, those respondents from a working class background who had used drugs were especially likely to report wishing to leave school at the minimum age.

Currie, Todd and Wijckmans (1993) also found that reported unhappiness with school life was shown to be a powerful predictor of smoking and alcohol misuse. However the measures used in their study, feeling like an outsider, bullying and social climate, do not necessarily relate to academic aspects of school life.

Turning to plans after leaving school, it was seen that respondents from Northern Ireland, females and those attending Protestant or non-denominational schools were more likely to wish to continue their education after school. Younger respondents were more likely to report that they had no plans as yet. This second finding is expected as it could reasonably be thought that pupils aged 11-12 may not yet have given any serious thought to their career beyond the immediate years ahead of them. In both countries, respondents from poorer backgrounds were less likely to wish to continue education and more likely to want to find employment. Meighan (1986) has pointed out that links between social class, educational attainment and life chances have consistently been established in research studies in the United Kingdom. Findings from Hendry et al's study also supported these gender and socio-economic effects.

> 'Young men were more likely than young women to place a high priority on starting work as soon as possible and they were less prepared to defer entering the labour market in order to extend the period spent in full-time education. Males were also more likely than females to regard much of their school experience as a waste of time.....Young people from non-manual backgrounds were least likely to regard school-based education as largely a waste of time and they were most likely to intend continuing on to further or higher education.' (Hendry et al 1993: 80-1)

Drinkers, particularly those in the older age group, were more likely to wish to continue their education. This was particularly noticeable for males and for Scottish respondents. Taken in conjunction with school leaving age, it may be that although drinkers wished to leave school at the first opportunity, it may not have meant that they wished to terminate their education.

Nevertheless, smokers, particularly those aged 11-12 were markedly less likely than non-smokers to wish to continue their education. This gap between smokers and non-smokers was more marked amongst Northern Irish respondents. The three-way interaction between country, socio-economic status and smoking status showed that the group most likely to wish to continue were non-smokers from more affluent areas of Northern Ireland, whereas the group least likely were smokers attending secondary schools in less affluent areas of the Province. Thus, in conjunction with socio-economic status, smoking had a very substantial effect on future intentions of the Northern Irish young people.

Similarly, the effects of drug use were far from clear cut. It was shown that older pupils, particularly females, who had used illicit drugs were significantly more likely than their peers who had not tried any of these drugs to wish to proceed to tertiary-level education. Plant, Peck and Samuel (1985), in their follow-up of Lothian school-leavers found that at the age of 19/20, levels of illicit drug use were much higher amongst both males and females who were unemployed than amongst their working peers or those who were full-time students. However, it should be re-emphasised that the current study only measured lifetime experience of illicit drug use.

In their development of problem behaviour theory, Jessor and Jessor (1977) assumed that value on academic achievement reflected an orientation towards conventionality. The results from their empirical study showed that 'problem' drinkers and those who

smoked cigarettes or marijuana were all less likely to place a high value on academic achievement. However, the results from the present study offer only partial support for this view. Instead, it may be that those who consume alcohol and have tried other drugs feel that they are likely to 'outgrow' school earlier than do their counterparts who abstain. Nevertheless, it was demonstrated that cigarette smoking was associated with reduced intention to stay on at school post compulsory minimum leaving age and with reduced intention to continue with education after leaving school.

5.6.5 Education

School-based education

Overall, 78% of the group reported having received educational information about alcohol in school. The most frequently mentioned sources were class discussion, leaflets, lesson from teachers, and films and videos.

Amongst males, older respondents were markedly more likely to have received alcohol education, as were those from Northern Ireland and those attending Protestant or non-denominational schools. Differences emerged when drinking status and country were considered together. This interaction showed that in Scotland heavy drinking males were markedly more likely than those who abstained to report having received alcohol

education. However, the opposite was true for Northern Ireland: heavy drinking males there were much less likely to report having received education in school.

Interestingly there were some differences for females. Females based in Northern Ireland, particularly those attending Roman Catholic schools, were more likely to have experienced alcohol education. Older females attending Roman Catholic schools in less affluent areas were particularly likely to have experienced alcohol education. However, their younger counterparts comprised the group least likely to have done so. It is postulated that the denominational differences between males and females could perhaps be attributed to different experiences of education in single-sex schools. As was explained in Chapter 3, single-sex Roman Catholic schools are prevalent in Northern Ireland, and could account for the reason why these differences were more marked in that country.

The general picture of experience of education appeared to parallel the experience of alcohol, with drinkers being more likely than non-drinkers to report having received education relating to alcohol. In addition, it was observed amongst both genders that those who drank heavily (with the exception of Northern Irish males) were more likely to report receiving information about alcohol. This seems to reflect the fact that the more a person is interested in a subject or activity the more notice they are likely to take of it. However, these results *could* also suggest that there was no link between increased

experience of alcohol education and decreased consumption. Plant, Peck and Samuel (1985) reported a similar finding.

Eighty-three percent of respondents reported having received information in school about smoking, the figure for illicit drugs was slightly lower at 71.4%. It was noted that the main predictor of tobacco education was smoking status, with smokers more likely than non-smokers to report having received school-based education. Older respondents were more likely to report having received education about smoking, with this age differential being wider in Northern Ireland. In middle class areas, respondents attending non-denominational or Protestant schools were more likely to have received information on smoking. In terms of gender, in Scotland significant differences existed only between males and females attending Protestant schools - here females were more likely to report having had tobacco education. However, in Northern Ireland, females attending Roman Catholic schools were more likely to report having received school-based education.

As regards drug education, experience of drug use did not affect the model, i.e. there were no significant differences between users and non-users. Moreover there were no differences between males and females in this respect. Nevertheless, once again, the older respondents were more likely to have received in information in school. Northern Irish Protestants attending secondary schools were the group most likely to have experienced education, whereas Northern Irish Roman Catholics from poorer areas were the least likely to have done so. Previous analysis of drugs use had shown that those

respondents in less affluent areas of Northern Ireland constituted the group most likely to have experimented with a wide variety of illicit substances.

Education outside school

The most popular sources appeared to be television/radio, magazines/newspapers and parents. Friends lagged behind parents as a source of information, even in Northern Ireland. When education from all sources were clustered, three groupings emerged: just under a quarter of respondents were informed from multiple sources; just over once quarter from mainly school sources, and the remaining half from few sources. Respondents from Northern Ireland, older respondents, males, Protestants and those from less affluent areas were all more likely to be informed from multiple sources. However, no questions were included to elicit any information on the qualitative aspects of this information.

Thus, although the majority of the study group did report having received alcohol and drugs related education, either in a school setting or from some other source, there was no indication that this moderated their alcohol and drugs consumption. In fact, most of the factors predicting greater likelihood of receiving education were also those related to greater propensity to consume alcohol (especially to heavier levels), smoke and experiment with illicit drugs.

The final two results chapters will investigate some other important social and personal correlates of alcohol and drug use amongst young people.

CHAPTER 6

CORRELATES AND PREDICTORS I: EFFECTS OF INCOME, LEISURE AND RELIGIOSITY ON ADOLESCENT SUBSTANCE USE

6.0 INTRODUCTION

As was stated in the aims of the study (Chapter 3, Section 3.1), in addition to examining some possible demographic influences, this project was designed to investigate other, social and behavioural, factors which might affect adolescent drinking patterns. In this vein, this chapter will concentrate on the possible relationships between a range of lifestyle variables and youthful consumption of alcohol, tobacco and other drugs. The rationale for the factors chosen was presented in some detail in Chapter 1. Specifically, this chapter will consider the association between quantities of alcohol, tobacco and illicit drugs consumed and personal weekly income and spare-time leisure activities. After this, an investigation of possible associations between religion and substance use will be presented, and the chapter concludes with an examination of respondents' reported reasons for, and attitudes towards, drinking. Throughout attention will be drawn to the ways in which these factors interact with the demographic variables under examination, principally possible differences between Scottish and Northern Irish respondents.

6.1 INCOME

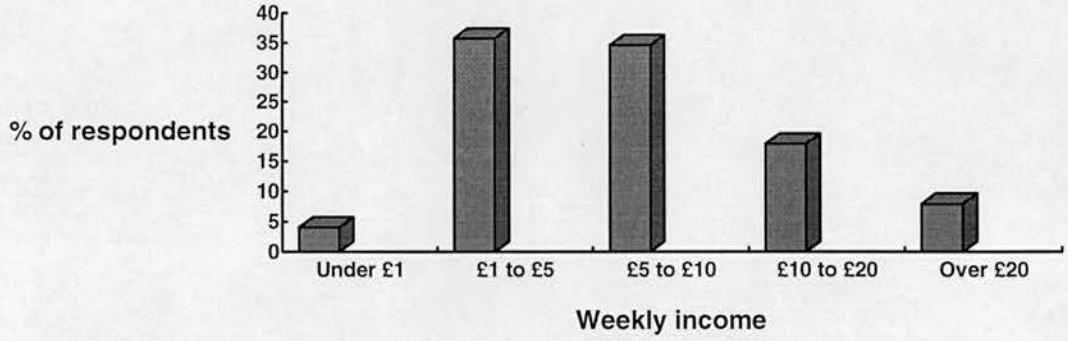
As explained in Chapter 1, previous research (e.g. O'Connor 1978; Hendry et al 1993) has demonstrated income to have a bearing on the amounts of alcohol consumed and the alternative uses of leisure time. In addition, several surveys of teenagers and alcohol use, (e.g. Davies and Stacey 1972; Currie, Todd and Wijckmans 1993) have concluded that available income was positively associated with levels of alcohol consumption. To investigate these areas in the present study and how they might vary between the two countries, several questions were designed to elicit information on respondents' personal

income, both from earned and other sources, and to determine how much of this money was spent buying alcohol, tobacco or other drugs.

6.1.1 Total weekly income

To measure this variable the respondents were asked : 'Each week, how much money do you have of your own to spend as you like?'. They were asked to tick one of the following categories: Under £1; £1 to £5; £5 to £10; £10 to £20; Over £20. Full details of their answers are provided by Figure 6.I.

Figure 6.I: Weekly personal spending money



As can be seen from Figure 6.I, the majority of pupils (74%) reported a personal weekly income of between £1 and £10. Simple cross tabulations revealed that, not surprisingly, teenagers aged 14-16 had significantly more money to spend than their younger counterparts. It also appeared that those from Northern Ireland were better off than their Scottish peers. Additionally, drinkers and those attending schools in a lower income catchment area also appeared to have more weekly spending money. However, as noted before, both the group of drinkers and the Northern Irish study group contained significantly higher proportions of older respondents. Thus in order to determine if the

drinking and country effects were merely artefacts of age, the variables were once again entered into a log-linear regression analysis. In order to formulate a suitable model, the first two income categories were combined into a single band 'up to £5', and the final two classifications were also grouped into one category, £10 and over'. The results of this analysis are presented in Table 6.I (Appendix B).

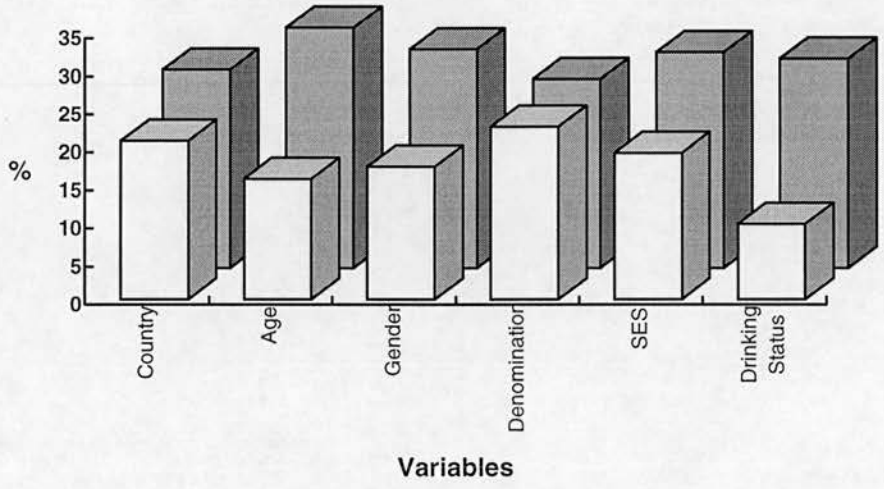
Country did not prove to be a significant predictor in this model, and it may be concluded that in this case, the apparent effect of the Northern Irish being better off could be attributed to the bias towards the older students. Following from this, age proved to be the most powerful predictor of level of income, with the older pupils being markedly more likely to have £5 and more to themselves each week (odds ratio '£5-£10' = 4.195; '£10+ = 10.340). The effects of gender were less clear cut: although the females were more likely than the males to have up to £10 to spend each week (odds ratio increased by 1.225), the latter were more likely to have £10 or more of personal income (odds ratio increased by 0.710). Age also interacted with gender and socio-economic status to indicate that older working class respondents were the least likely age/class combination to have only £5 or less to spend on a weekly basis.

Socio-economic status also exerted further effects on level of income. It was shown firstly that those attending predominantly working class schools were markedly more likely to have £10 or more (odds ratio increased by 2.323) to spend on themselves each week, and, secondly, that female drinkers aged 14-16 years old from poorer areas comprised the group least likely to only have £5 or less weekly spending money. Taking these effects into account, the odds ratios revealed that drinkers in both age groups were significantly wealthier than their non-drinking counterparts (odds ratio '£5-£10' = 1.809; '£10+ = 3.550). Religious affiliation did not prove to significantly affect the model, either on its own or in conjunction with any of the other main predictor variables.

6.1.2 Part-time employment

The question discussed in the previous section referred to total cash available, and was not restricted to parental pocket money. Accordingly, it was decided to investigate if having a part-time job influenced the level of weekly spending money.

Figure 6.II: Proportion of Respondents with Part-time jobs



Overall, 271 (23.1%) respondents replied that they were in part-time employment. As Figure 6.II shows, part-time employment was more prevalent amongst individuals from Northern Ireland[1], the older age group[2], males[3], Roman Catholics[4] and those respondents of lower socio-economic status[5]. Drinkers were also more likely to report having a part-time job[6]. However, in order to account for the confounding effects of age gender and

[1] 26% in Northern Ireland, compared to 21% in Scotland. $x^2=4.331$; d.f.=1; $p<0.05$.
[2] 31.6% 14-16 year olds, compared to 15.8% 11-12 year olds. $x^2=35.956$; d.f.=1; $p<0.001$.
[3] 29% of males, compared to 17% of females. $x^2=20.216$; d.f.=1; $p<0.001$.
[4] 25% of Roman Catholics, compared to 23% of Protestants. Non-significant difference
[5] 28.3% lower socio-economic status, compared to 19.2% higher. $x^2=13.504$; d.f.=1; $p<0.001$.
[6] 27.4% of drinkers, compared to 10% of abstainers. $x^2=34.592$; d.f.=1; $p<0.001$.

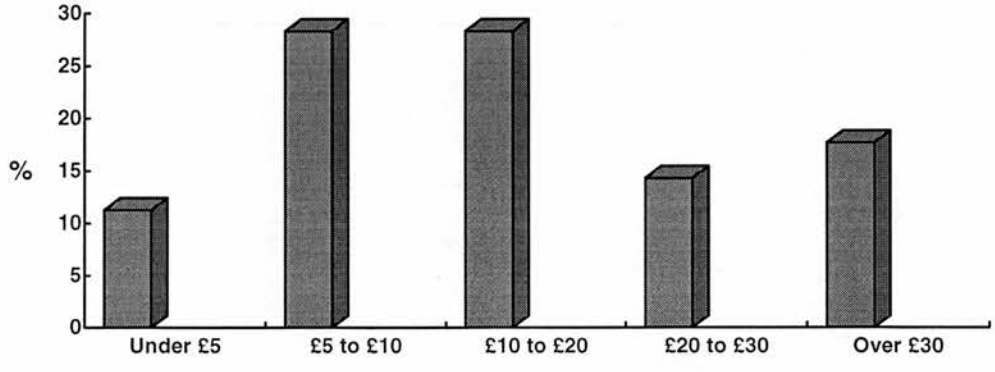
country, a logistic regression analysis was undertaken. The results of this model are presented in Table 6.II (Appendix B).

Table 6.II predicts the relative odds of having a part-time job. It can be seen that the odds of those attending schools in more middle-class areas of Northern Ireland indicated that they were twice as likely as their counterparts in Scotland to be working part-time. Although respondents from less affluent areas of the Province were also more likely than their Scottish peers to work part-time, this difference was smaller (odds ratio increased by 0.437). This interaction also showed that although in Scotland, working class respondents were much more likely than their wealthier colleagues to have a job, this difference was much less apparent amongst pupils in Northern Ireland. Not surprisingly the older respondents were more likely to have a part-time job. Males were markedly more likely than their female counterparts to be working. However, this difference was much more marked in the younger age group. The significant gender/age interaction meant that the gender odds ratio for the older age group was reduced. Religious denomination did not significantly affect the model; this meant that Catholics and Protestants were equally likely to be in part-time employment. Finally, even accounting for age, gender and socio-economic status, drinkers were more likely to have part-time jobs than non-drinkers (odds ratio increased by 2.558).

6.1.3 Income from part-time employment

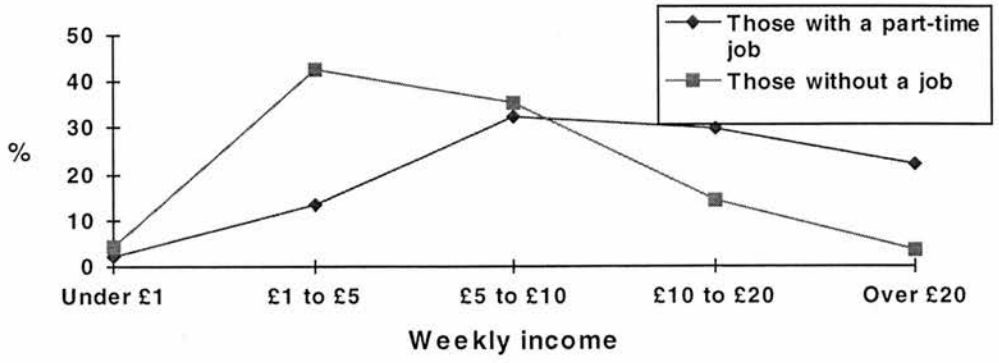
The working respondents were then asked about their weekly earnings. Full details are provided by Figure 6.III.

Figure 6.III: Weekly earnings for those with a part-time job (n=265)



The majority of pupils working reported earning between £5 and £20 per week; a notable proportion (32%) earned over £20. Figure 6.IV below presents a comparison of total weekly incomes for those in part-time employment and their non-working colleagues. Not surprisingly, those who had a part-time job had more money to spend on themselves than their non-working counterparts: those in part-time employment were markedly more likely to have £10 or more weekly spending money. This finding may well explain the differences in weekly income due to socio-economic status in particular, i.e. that those respondents from less affluent backgrounds report higher personal income partly due to the fact that they are more likely to earn that money.

Figure 6.IV: Comparisons of weekly incomes

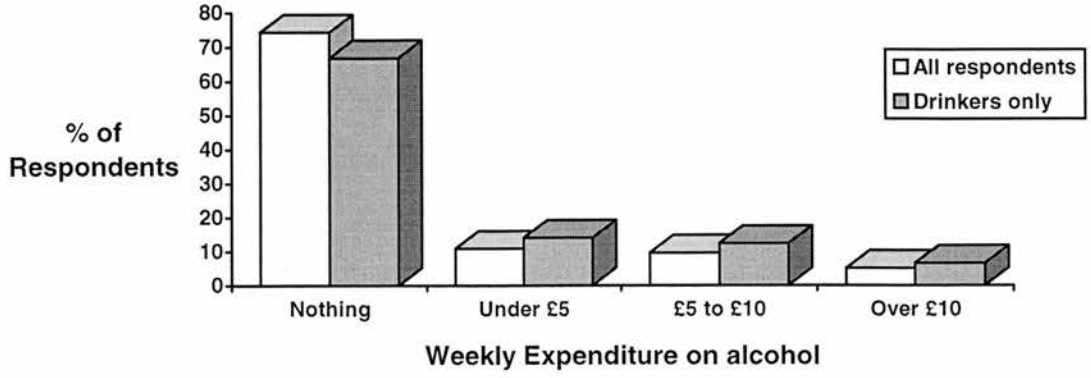


6.2 EXPENDITURE OF WEEKLY INCOME ON ALCOHOL, TOBACCO AND OTHER DRUGS

6.2.1 Expenditure on alcohol

Having determined the distribution of weekly income, from both earned and other sources, it was then decided to investigate how much of this money was spent on alcohol. Respondents were asked to indicate how much they would spend buying alcohol in an average week. This was a free response question. The answers were subsequently grouped by the researcher into four categories. Details of the pattern of responses are given in Figure 6.V.

Figure 6.V: Weekly Expenditure on alcohol



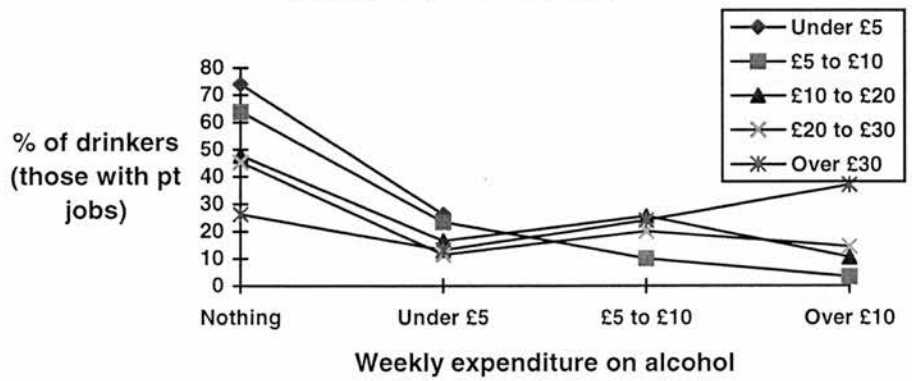
As can be seen from Figure 6.V, the vast majority of respondents (including two thirds of the drinkers) reported that they did not spend any of their income on alcohol. Of those who did spend some money buying alcohol, this was most likely to be £10 or less.

When weekly expenditure on alcohol was correlated with total weekly income, the results showed a significant positive association (Pearson's $r=0.42$; $p<0.001$), indicating that those with higher weekly spending moneys tended to spend more on alcohol. This association is demonstrated graphically by Figure 6.VI.

Figure 6.VI: Weekly amount spent on alcohol by total weekly income

This association proved to be even stronger for the correlation between weekly earned income and expenditure on alcohol (Pearson's r=0.57; p<0.001), with those earning £20 and over most likely to spend over £10 per week on alcoholic beverages. This is illustrated by Figure 6.VII.

Figure 6.VII: Weekly amount spent on alcohol by weekly earned income



Weekly expenditure on alcohol was also positively associated with the amount of alcohol consumed at the most recent drinking occasion, when males and females were divided into abstainers, light and heavy drinkers[1] (males: Pearson's r=0.57; females: Pearson's r=0.57 p<0.001). This, predictably, means that heavier drinkers tended to spend more on alcohol.

Log-linear regression analysis was undertaken to determine if any of the demographic variables would prove to be significant predictors of level of expenditure on alcohol. The results of this analysis are presented in Table 6.III.

[1] Males: 'Light' = 1-2 units; 'Moderate' = 3-11 units; 'Heavy' = 12+ units.
Females: 'Light' = 1-2 units; 'Moderate' = 3-7 units; 'Heavy' = 8+ units.

From Table 6.III, it can be seen that, in line with being heavier drinkers, those from Northern Ireland also spent more than their Scottish peers[1]. Northern Irish females were even less likely than their male colleagues to spend nothing on alcohol. On one hand males were more likely than females (odds ratio increased by 0.638) to spend nothing on alcohol (more marked amongst the 11-12 year olds), but on the other to spend 'up to £5' or 'more than £10' in an average week. Those in the older age group were markedly more likely than the 11-12 year olds to spend anything on alcohol.

Although it was demonstrated that denomination did not significantly affect level of weekly income, two significant findings did emerge in the present model. The first of these indicated that those who attended Protestant or non-denominational schools were more likely to spend nothing on alcohol in an average week (odds ratio increased by 2.370). This effect was stronger for respondents residing in Scotland (odds ratio for Northern Ireland increased by 0.678), and for females (odds ratio increased by 1.543), but was much less marked amongst those from less affluent areas (odds ratio increased by 0.633). In addition, the odds of Protestant/non-denominational respondents indicated that they were half as likely as pupils who attended Roman Catholic schools to spend between £5 and £10 on alcohol in an average week.

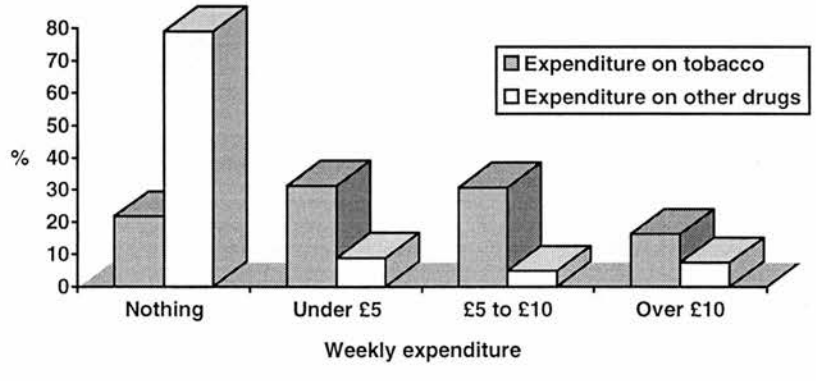
In line with levels of income, it was shown that working class students were more likely to spend more on alcohol than those from more affluent areas, i.e. more likely to spend at least £5 on a weekly basis (e.g. odds ratio '£10+' increased threefold). Furthermore, older working class respondents were less likely to spend nothing than their counterparts from more affluent backgrounds.

[1]Odds ratio 'up to £5' = 1.704; '£5-£10' = 1.677; '£10+' = 2.938.

6.2.2 Expenditure on tobacco and other drugs

Along with investigating expenditure on alcohol, the survey instrument contained two further questions to elicit information on weekly expenditure on tobacco and other, illicit, drugs. Respondents were asked to indicate how much they would spend buying tobacco (mainly in the form of cigarettes) and other drugs in an average week. As these questions were also free response, the answers were grouped into the same four categories as were used to group expenditure on alcohol. Figure 6.VIII below presents the patterns of responses. It should be noted that these represent the answers only of those who stated that they were current smokers and those who claimed to have tried at least one illicit drug at least once.

Figure 6.VIII: Weekly expenditure on tobacco & other drugs



Interestingly, although the pattern of answers in relation to expenditure on drugs was very similar to that given for expenditure on alcohol (with most drug 'users' claiming that they spend nothing on an average week on drugs), the answers to expenditure on smoking displayed a markedly different pattern. Only one fifth of smokers did not spend any money in an average week buying cigarettes, whereas nearly 50% of smokers reported spending over £5 on cigarettes on a weekly basis.

As with the data on expenditure on alcohol, log-linear analysis was conducted on expenditure on tobacco and that on other drugs. The results of these two models are displayed in Tables 6.IV and 6.V (Appendix B).

Dealing firstly with spending on cigarettes and other tobacco products, unlike expenditure on alcohol, there was no gender effect observed in this model (Table 6.IV). This could be due to the finding that significant differences in smoking behaviour between males and females existed only in Northern Ireland. Not surprisingly, smokers in the older age group were more likely than their peers aged 11-12 to spend anything at all on tobacco. The country effect showed that those respondents from Northern Ireland were more likely than their Scottish counterparts to spend nothing on smoking (odds ratio increased by 2.912). However, a significant interaction with denomination revealed that this was only true for Roman Catholics; the difference was negligible between the countries for those who attended Protestant or non-denominational schools (interaction odds ratio increased by 0.404). Religious affiliation also interacted with age to provide the effect that older Protestants were more likely than their Roman Catholic colleagues to not spend any money on buying cigarettes on a regular basis (odds ratio increased by 1.604). In terms of socio-economic status effects, younger working class respondents were more likely than their more affluent counterparts not to spend anything on tobacco. However, this difference disappeared for the older age group. On the other hand, the odds of those from less affluent school catchment areas spending £10 or more on tobacco in a week were almost seven times those of respondents attending schools in predominately middle class areas.

As regards expenditure on other drugs (Table 6.V), those country and denomination effects which were significant were broadly in line with the predictors for spending on alcohol and tobacco. Thus, pupils of both religious denominations residing in Northern

Ireland were more likely than their Scottish peers to spend nothing (odds ratio increased by 1.866). Roman Catholic respondents were less likely than those attending Protestant or non-denominational schools to report spending nothing on drugs (odds ratio Protestant/non-denominational increased by 3.699). However, an interaction between these two variables meant that this difference between the denominations was greater in Scotland than in Northern Ireland (interaction odds ratio = 0.440). Gender also significantly affected the model in a similar way as it had affected expenditure on alcohol: females were shown to be less likely to spend nothing on drugs (odds ratio increased by 0.256), but also less likely to spend between £5 and £10 (odds ratio increased by 0.367). Moreover, a significant interaction between age and gender indicated that although younger females were significantly less likely than older males to spend nothing on drugs, this difference was reduced by a factor of more than three amongst the older age group.

Socio-economic status and religious affiliation of schools affected expenditure on drugs in quite different ways from their effects on expenditure on tobacco or alcohol. It was shown that although Roman Catholic pupils from less affluent areas were more likely than their middle class counterparts to spend no regular money obtaining illicit drugs, this difference did not exist for those respondents attending Protestant or non-denominational schools.

6.3 Leisure Activities

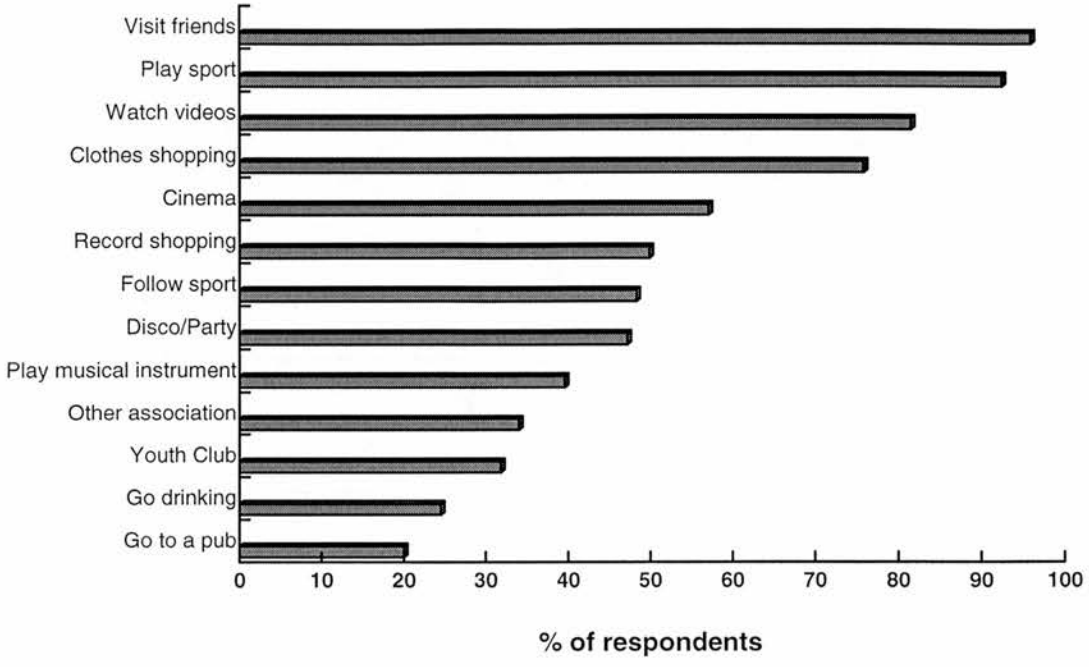
6.3.1 Participation in leisure activities

A further set of factors which are commonly thought to have implications for patterns of youthful drinking are contained in the area of spare time, or leisure, pursuits. For example, from their survey of Glaswegian teenagers, Davies and Stacey (1972) suggested that young people are less likely to smoke and drink if they play a sport and attend youth clubs than if they regularly go to parties and dances.

To investigate these assertions, a further question in the lifestyles section of the survey instrument in the present study was designed to elicit information about the respondents' hobbies and pastimes. On a scale ranging from 'never', through 'once or twice a year', 'three or four times a year', 'once a month', 'twice a month', to 'once a week or more', respondents were asked to indicate how often they participated in a selection of leisure pursuits. This list was initially drawn up using activities employed in previous surveys of young people, and was modified during the pilot study. A miscellaneous category was introduced to enable students to include any activity not covered by the list. However, very little use was made of this category. It should be noted here that the survey was carried out just prior to the computer games 'boom', and so this activity does not feature on the list.

Previous surveys of youth leisure habits, for example those conducted for the Economic and Social Research Council 16-19 initiative (Roberts and Parsell 1990), have used 'once a month or more' to denote regular participation in a particular activity. Using this methodology, the following order of popularity was revealed.

Figure 6.IX: Proportion of respondents participating in leisure activities on a regular basis



As can be seen from Figure 6.IX, visiting friends and playing sport were the two most popular pastimes. However, despite instructions to the contrary, it is likely that a fair proportion of respondents included compulsory school games in their answers. Film viewing manifested itself as a popular activity, with 82% regularly watching videos, and 58% attending the cinema on a frequent basis. Youth clubs and other associations (e.g. Guides and Scouts) came fairly far down the list. Although nearly half of all respondents were regular party or disco goers, activities which are more likely to involve alcohol than the 'dry' activities, only one fifth regularly visited a public house and a quarter consumed alcohol in other locations.

In order to determine any associations between the various activities, responses to each were correlated with one another. The relationship between each pastime and the amount of alcohol consumed on the most recent drinking occasion was examined. The results are presented in Tables 6.VI and 6.VII (Appendix B).

Firstly for males (Table 6.VI), significant positive associations emerged between activities that one might expect to be linked, for example, watching videos and attending the cinema (Pearson's r=0.30[1]) and following sport and playing sport (Pearson's r=0.26). In relation to drinking activities, those who regularly visited pubs were also more likely to go to parties (Pearson's r=0.35) and to go drinking elsewhere (Pearson's r=0.37). The association between party-going and drinking elsewhere was even stronger (Pearson's r=0.4). Drinking status was positively associated both with visiting pubs and with attending parties. This finding also adds weight to the hypothesis that alcohol is often an integral component of youthful parties.

All these patterns were replicated for females (Table 6.VII), except that for girls, going drinking in a location not associated with licensed premises or parties, was significantly associated with heavier drinking (Pearson's r=0.54). Some interesting points were noted: for males only, following sport as a spectator, was positively correlated with drinking status (Pearson's r=0.53). Moreover, male heavy drinkers were more likely to regularly shop for clothes (Pearson's r=0.13). For females only, attendance at a youth club or other association was negatively associated with drinking status, i.e. those who abstained from alcohol or who were light drinkers are more likely to attend organised leisure activities, some of which may well have been founded on temperance principles.

[1] All associations are significant at $p<0.05$ or higher.

The data were also examined for possible associations between smoking behaviour (as measured by weekly cigarette consumption) and degree of drug use (measured by drug taking clusters). Weak negative associations were found between attending an organised association and smoking and drug use and also between playing sport regularly and use of tobacco or illicit drugs. As would be expected from the degree of association observed between the behaviours noted earlier (See Chapter 5, Sections 5.2 and 5.3), the strongest associations observed were those between smoking and drug use and drinking related activities, such as going to the pub (smoking r=0.29; drug use r=0.35), going to a party (smoking r=0.29; drug use r=0.33) and drinking elsewhere (smoking r=0.41; drug use r=0.45). However, as can be seen from the correlation coefficients, although these associations were all statistically significant (at the 0.05 or higher level) in practical terms they present at best moderate associations between these types of activities.

Participation levels in each of the activities were also correlated with respondents' weekly available money. Moderate positive associations existed between weekly income and shopping, attending the cinema and following sports. Negative associations were observed between weekly spending money and attendance at a youth organisation and playing a musical instrument. However, the strongest correlations associated increasing levels of income with frequent participation in alcohol-related leisure activities, i.e. visiting pubs (Pearson's r=0.25), going to parties (Pearson's r=0.33) or drinking in some other context (Pearson's r=0.34).

6.3.2 Predictors of preferred leisure activities

It was then decided to cluster the respondents according to their participation in the various leisure activities. Hierarchical cluster analysis on repeated random samples of 10% of the total cases revealed that two clusters would provide the optimum solution. K-means cluster analysis was then conducted on the whole data set, with respect to the leisure activities. The membership of the two clusters was as follows: Cluster 1:570 respondents; Cluster 2:507 respondents. When the characteristics of the emergent clusters were examined, it was revealed that those belonging to the first group were more likely to play and follow sport very regularly, frequently visit friends, shop and attend parties, and also more likely to belong to a youth club. In contrast, those comprising group 2 were less likely to participate in any leisure activity on a regular basis. Thus group 1 was termed 'Active Joiners' , and group 2 'Non-joiners'. Logistic regression analysis was conducted to determine the demographic make-up of these two groups. Drinking status was also included to determine if drinkers were more likely to belong to one or other of the groups. The results are presented in Table 6.VIII (Appendix B).

Table 6.VIII, which shows the odds of belonging to the 'Active joiners' group, indicates that country, denomination, socio-economic status and drinking status all influenced membership of the two groups. Those respondents from Northern Ireland were more likely than their Scottish peers to belong to the active group (odds ratio Scotland : Northern Ireland = 1:1.639). Respondents attending predominantly middle class schools were more likely to be joiners than those in poorer areas (odds ratio = 1:0.747). Protestants were more likely than Catholics to participate in active leisure pursuits (odds ratio = 1.458:1).

Drinkers were more likely to belong to the active joiners group than their non-drinking counterparts (odds ratio = 2.571:1). However, the significant interaction effect with gender meant that the difference between drinkers and abstainers was not as pronounced for females as for males (odds ratio = 0.478:1).

Similar models were constructed to determine the effects of smoking and drug use on membership of leisure clusters. The results of these are displayed in Tables 6.IX and 6.X (Appendix B). Dealing firstly with the effects of being a current smoker (Table 6.IX): all the effects revealed by the model incorporating drinking status were replicated here. In addition, however, age proved to significantly affect group membership, with those respondents aged 14-16 being less likely to belong to the 'Active Joiners' group than their younger colleagues (odds ratio = 1: 0.718). Moreover, even taking all the other effects into account, it was shown that being a smoker increased the odds of being an active participator in the leisure sphere by a factor of two.

The effects for the third model (Table 6.X), which included the dichotomous measure of drug use among the potential explanatory variables were almost identical to those produced in the model which contained the smoking variable. Of particular note is the effect that showed, with reference to illicit drug use, males and females who had tried drugs were more likely to be joiners (odds of those who had tried drugs belonging to the 'Active Joiners' group were nearly three times those who had never tried any of the illicit drugs). Thus, it can be concluded from the results of these models, that those respondents (particularly males) who consume alcohol, tobacco and have tried drugs are

more likely to belong to the 'Active Joiners' group than their abstinent, non-smoking, non-drug taking peers, a finding which reinforces the social nature of such activities.

6.4 Religiosity

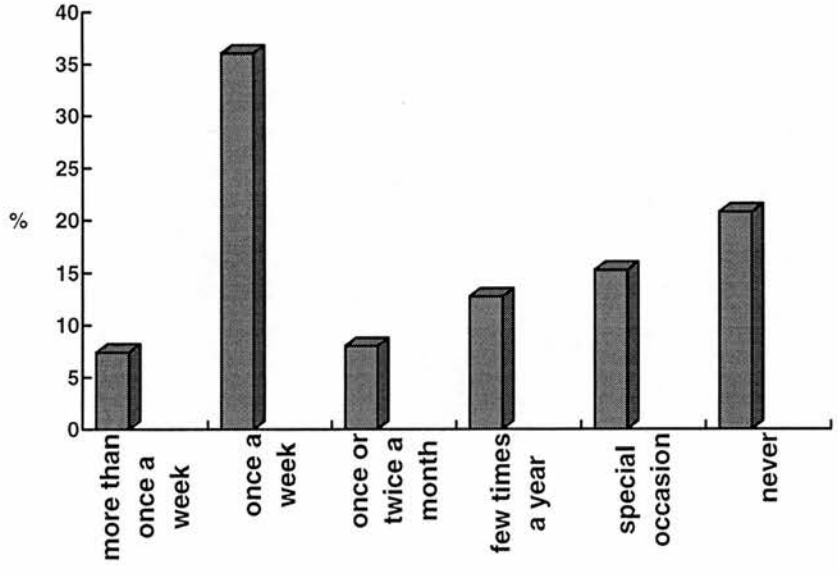
The importance of religion as a factor affecting young people's drug use was introduced in Chapter 1. In fact, O'Connor (1978) considered religion to be as important a socialisation factor as the family in the development of drinking behaviour. She found that religion did have a pronounced effect on the alcohol consumption of the 18-21 year olds surveyed, with those displaying a high level of religiosity tending to be categorised in the lighter drinking categories. More recent evidence, from a survey of 13-15 year olds in England, demonstrated that those adolescents who attended church regularly held more conservative attitudes towards all drug use (Francis and Mullen, 1993). Therefore it was decided in the present study to examine how religiosity affected reported patterns of drinking, smoking and use of other drugs.

Religion is often proposed as an explanation for the differences in patterns of adult alcohol use between Northern Ireland and the rest of the United Kingdom (Stringer and Robinson, 1991; Bruce and Alderdice 1993). There is general agreement among observers of the Northern Irish scene that: 'above all else, Ulster has been a religious region' (Akenson 1973; p25). Figures from the British and Northern Irish Social Attitudes Survey data certainly suggest that frequent church attendance is commonplace, even normative in Northern Ireland, with 58% of those in the Province attending church 'frequently', compared to a mere 15% in Britain (Bruce and Alderdice 1993).

5.3.1 Church Attendance

Respondents were asked how often they attend a religious service (excluding school assembly). It was anticipated that this would give a more specific measure of religiosity than merely asking the respondent to state their religious affiliation. This latter question has proved to be especially sensitive in Northern Ireland.

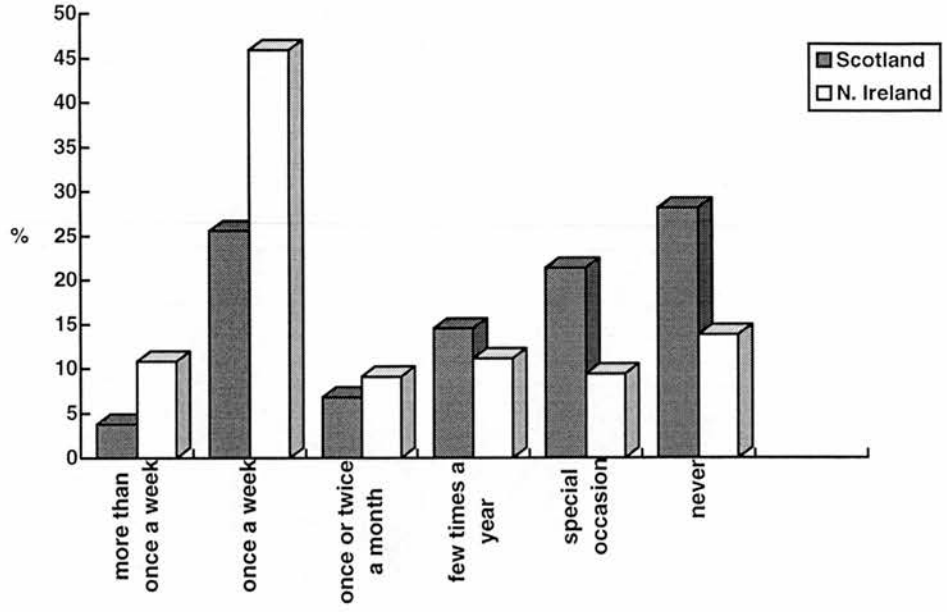
Figure 6.X: Attendance at a religious service



As can be seen from Figure 6.X, the majority of respondents did claim to attend church, at least on an occasional basis; only 21%, or 239 pupils, reported that they never attended. When the figures were divided by country (Figure 6.XI), it emerged that in accordance with previous evidence, a higher proportion of church attendees came from Northern Ireland where 86% of respondents attended church, compared to 72% of respondents from the Scottish study group ($x2=35.047$; $d.f.=1$; $p<0.001$). Moreover, respondents from Ulster reported attending church on a more regular basis. For example,

57% of those in the Northern Irish study group attended a religious service on a weekly or more frequent basis as compared to only 29% of Scottish pupils.

Figure 6.XI: Attendance at a religious service - divided by country



However, further analyses, using forward stepwise logistic and log-linear regressions were once again undertaken to control for denomination, socio-economic status, age and gender because of the significant differences between the study groups. The results of the logistic regression analysis are explained in Table 6.XI (Appendix B). As logistic regression requires a dichotomous dependent variable, the church attendance answers were reclassified into two categories: church attendees and non-attendees.

The model, illustrated by Table 6.XI, displays the relative odds of being classed as a church attendee. From the summary of the model it can be seen that those respondents from Northern Ireland *were* significantly more likely to attend church; in fact the odds

ratios in favour of attending church were more than twice those of their Scottish counterparts. With reference to religious affiliation, Catholics in both countries were more likely than Protestants to attend church (odds ratio = 1:0.170). Although age on its own did not exert a main effect on the model, the significant gender/age interaction shows that, for females only, those aged 11-12 were much more likely than their older colleagues to attend religious services. Females in both age groups were more likely than males to be classed as attendees (odds ratio = 3.343:1). It was also shown that those respondents living in less affluent areas were less likely than their counterparts from wealthier backgrounds to attend church (odds ratio = 0.290:1).

Log-linear regression analysis, which included all the church attendance categories, confirmed the above results, and revealed that the Northern Irish pupils were significantly more likely than their Scottish peers to attend church at least once a week (odds ratios 'more than once a week' increased by 1.674; 'once a week' 1.992), and significantly less likely to attend infrequently or not at all (e.g. odds ratio 'never' increased by 0.327). Catholics were more likely than Protestants to attend a religious service on a weekly basis (odds ratio for Protestants increased by 0.325) and markedly less likely to never attend (odds ratio for Protestants increased by 4.787); but the latter were more likely to attend 'a few times a year' or 'occasionally'. Females were more likely than males to attend church on an occasional basis than to never attend. Those from the older age group were more likely to be occasional or non-attendees than the 11-12 year olds. The effect of socio-economic status discussed above was also supported in this analysis, i.e. the odds of respondents from working class backgrounds never attending church were almost five times those of their middle class peers. These results are detailed in Table 6.XII (Appendix B).

6.4.2 Associations between church attendance and drinking behaviour

In relation to analysis of drinking behaviour, the dichotomous measure of church attendance will be employed. Although this may not present as precise measures of church attendance as the more comprehensive classification, it proved necessary to limit the number of interactions in the statistical packages (SPSS and GLIM) used to analyse the data.

In order to determine whether church attendance had an effect on the prevalence of drinking amongst the respondents in the study group, the dichotomous measure was introduced into the logistic regression model first encountered in Chapter 4 (Table 4.I). The results of the updated model are contained in Table 6.XIII (Appendix B).

From Table 6.XIII, it can be seen that the effects of country, age gender, denomination and socio-economic status outlined in Chapter 4 (Section 4.1) were replicated in this revised analysis. To summarise briefly: country, age and gender all exerted significant effects on whether or not a subject had consumed an alcoholic drink. Older respondents, males and those pupils from Scotland were more likely to have had an alcoholic beverage. The country/gender interaction effect showed that the country effect was even more pronounced for females than for males. The significantly positive age by gender effect indicated that, although younger females were significantly less likely than younger males to drink, this gender difference almost disappeared amongst the 14-16 year olds.

Again, in line with findings from the analysis presented in 4.1, socio-economic status affected the likelihood of drinking only when combined with age and country. These effects indicated that amongst the Scottish study group, those aged 14-16 who attended

independent schools were the most likely age/socio-economic status combination to be drinkers. However, in Northern Ireland the group most likely ever to have consumed a whole alcoholic drink comprised older pupils attending secondary schools. A further finding of note to emerge from this interaction indicated that 11-12 year olds attending grammar schools in Northern Ireland were the combination group least likely to drink[1].

Religious affiliation and church attendance were also involved as components of important interaction effects. The interaction between country and denomination showed that in Scotland, there were no significant differences between those attending Roman Catholic schools and their peers attending non-denominational schools (odds ratio = 1: 0.976). However in Northern Ireland, Roman Catholic pupils were only half as likely as their Protestant colleagues to drink (odds ratio = 0.448:1.090[2]). Thus, Catholics from Northern Ireland were the least likely group to be drinkers, but Protestants from the Province were the most likely country/denomination interaction group to drink. These results suggest that Northern Irish Catholics may contribute most to Ulster's high levels of abstinence. The suggestion, that it is religion rather than country which affects abstinence rate, is supported by the interactions between church attendance and country and between church attendance and denomination. The former showed that for Northern Ireland only, non-attendees were more likely than attendees to drink (odds ratio increased by a factor of five); the latter revealed that for both countries the most likely group to drink were Protestants or those of no denomination who did not attend church (odds ratio increased fourfold).

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[1]Relative odds ratios are as follows:

	Scotland		N. Ireland	
	MC	WC	MC	WC
11-12	1	0.791	0.448	0.367
14-16	7.05	1.768	1.882	3.781

[2]CO2xDENOM2xCO2*DENOM2 = 0.448x0.976x2.494 = 1.090.

Pledge to abstain from alcohol

To investigate the possible influence of religion further, respondents were asked if they had ever taken a pledge, either of total abstinence or not to drink until they had attained a certain age (normally 21 years old). Twenty-three per cent of the total group (260 pupils) reported having made such a commitment. This variable was then subjected to logistic regression analysis, in order to determine the demographic characteristics of those who had taken a pledge. The summary of the resulting model is presented in Table 6.XIV (Appendix B).

As can be seen from the odds ratios contained in Table 6.XIV, the overwhelming majority of pledges made were by Roman Catholic pupils aged 11-12 years old, residing in Northern Ireland. Taking all the other demographic factors into account, the odds of this group having pledged not to consume alcohol were 88 times those of their Scottish colleagues. Older pupils were less likely to have made a pledge - even in Northern Ireland, the ratio of the odds was reduced to 38. With reference to denominational affiliation, Roman Catholic respondents were significantly more likely to have taken a pledge (odds ratio = 1:0.345), and this difference was much more marked amongst the Northern Irish respondents (odds ratio further increased by a factor of 0.071). In Scotland those respondents of lower socio-economic status were more likely to have committed themselves to not drinking. However, the strong country by socio-economic status interaction effect implied that the reverse was the case amongst the Northern Irish study group, where those pupils from more affluent areas were more likely to have made a pledge. Gender did not prove to be a significant predictor in this model.

Perhaps the most interesting finding to emerge from this analysis was that drinking status had no effect on the model, either on its own or in combination with the other predictor variables. The implications of this result are that taking a pledge of abstinence or a pledge not to drink until a certain age does not affect the decision of whether or not to drink amongst young people.

Effect of church attendance on levels of alcohol consumed

It was then decided to examine the possible influences of religiosity on levels of alcohol consumed amongst those respondents who were drinkers. To do this, church attendance was incorporated into the analysis of variance models of quantity of alcohol consumed on most recent drinking occasion and greatest amount of alcohol consumed on any one occasion. Although church attendance on its own did not significantly affect the mean number of alcohol units consumed, differences did emerge when it was examined in conjunction with other variables.

In relation to both measures of alcohol consumption, church attendance had a significant effect firstly in conjunction with age and socio-economic status (quantity consumed on most recent occasion: $F_{1,835}=6.925$, $p<0.01$; greatest amount consumed: $F_{1,762}=4.310$, $p<0.05$) and secondly with country and gender (quantity consumed on most recent occasion: $F_{1,835}=6.349$, $p<0.05$; greatest amount consumed: $F_{1,762}=6.409$, $p<0.05$). Full details of the mean levels of alcohol consumed are illustrated by Tables 6.XV and 6.XVI below.

Table 6.XV: Effects of church attendance, age and socio-economic status on alcohol consumption

		AGE			
		11-12 years old		14-16 years old	
		SES	SES	SES	SES
		Middle class	Working class	Middle class	Working class
Mean number of units of alcohol consumed on most recent drinking occasion	CHURCH ATTENDEES	2.15	2.91	5.84	8.14
	NON ATTENDEES	2.59	3.75	9.04	7.89
Mean maximum number of units of alcohol ever consumed	CHURCH ATTENDEES	3.04	3.61	10.59	14.48
	NON ATTENDEES	3.42	3.62	18.63	14.00

Table 6.XVI: Effects of church attendance, gender and country on alcohol consumption

		COUNTRY			
		SCOTLAND		NORTHERN IRELAND	
		SEX	SEX	SEX	SEX
		Male	Female	Male	Female
Mean number of units of alcohol consumed on most recent drinking occasion	CHURCH ATTENDEES	3.72	3.91	6.34	4.72
	NON ATTENDEES	6.12	5.06	7.19	7.55
Mean maximum number of units of alcohol ever consumed	CHURCH ATTENDEES	6.65	7.25	11.02	6.29
	NON ATTENDEES	8.90	9.90	11.51	14.37

With reference to age and social class background, it can be seen from Table 6.XV that for most groups consumption was higher for those respondents who did not attend church. However, older pupils from less affluent areas provided the exception to this pattern; for this sub-group only, church attendees reported higher mean consumption levels, on both measures, than did their non-religious counterparts. The suggestion put forward earlier, that religiosity had more of an influence on drinking behaviour amongst the Northern Irish study group, is supported by the means reported in Table 6.XVI. For both measures of alcohol consumption and for both genders, the differences between attendees and non-attendees was greater for those respondents resident in Northern Ireland. It should also be noted that for despite these differences, male church attendees in Northern Ireland still had a higher mean consumption level than those in Scotland who did not attend church.

6.4.3 Effect of church attendance on smoking and use of illicit drugs

As church attendance proved to have such a marked effect on adolescent drinking behaviour, it was decided to examine whether this measure of religiosity similarly influenced tobacco smoking and the use of other, illicit, drugs. This was done by constructing two logistic regression models with a dichotomous measure of present smoking status (smoking vs. non-smoking) as the dependent variable in the first, and the dichotomous measure of drug use (ever used vs. not used) in the second. In addition to the standard variables, country, age , gender, religious denomination and socio-economic status, and church attendance, drinking status was included. The reason for this was that, as seen in Chapter 5, Sections 5.2-5.3, drinking was highly associated with both use of tobacco and other drugs. This high degree of association between behaviours was also the reason why two separate models were constructed for smoking and for drug use. The results of these models can be seen in Tables 6.XVII and 6.XVIII (Appendix B).

Firstly, for smoking many of the findings presented from the original model in Chapter 5 were replicated in this revised model. Thus, it was again shown that members of the older age group were more likely than their younger counterparts to smoke, but that this difference was greater in Scotland than in Northern Ireland; respondents attending Roman Catholic schools were more likely to be smokers, as were drinkers. However, it should be noted that the drinking effect was much reduced from the original model (the odds ratios being reduced from 15.15 to 3.695). The difference between drinkers and abstainers was once again greater in Northern Ireland. Moreover, in that country only, females were more likely than males to smoke and those respondents from working class backgrounds were more likely than their middle class peers to be current smokers.

The variable which was the focus of this particular analysis, church attendance, did not on its own significantly influence the likelihood of being a smoker. Nevertheless, it did interact with some of the other predictor variables to affect the dependent variable. These interactions can be interpreted as follows: firstly, the interactions between country and church attendance meant that in Northern Ireland only, non-attendees were much more likely than their more religious counterparts to smoke (odds ratio increased by a factor of 20). Thus, once again, there is evidence of the importance of religiosity in determining adolescent behaviour in Ulster. The second interaction occurred between drinking status and church attendance, and showed that those who drank and did not attend church were markedly more likely to be smokers; the odds were increased by a factor of 41.

Table 6.XVIII presents the relative likelihoods of having used other, illicit, drugs. As with the model on smoking, most of the effects revealed in the original model determining predictors of drug use (Table 5.IX) also emerged as significant on this occasion. Briefly, males, respondents aged 14-16, Roman Catholics, respondents from

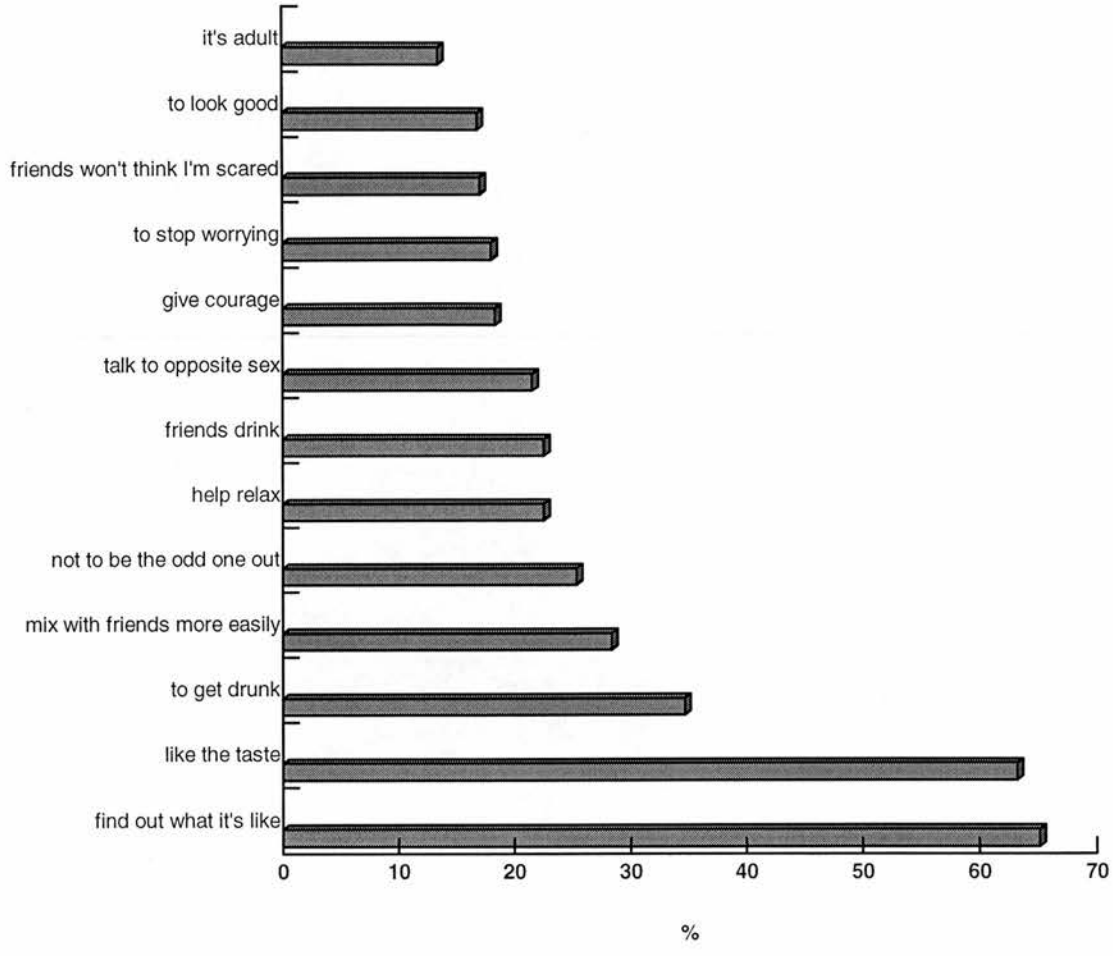
poorer school catchment areas, and drinkers were all more likely to have ever used drugs. It should be noted that the gender difference was lessened amongst the older age group and also amongst drinkers. As with the model predicting smoking status, church attendance did not on its own significantly affect the likelihood of having tried drugs. However, as seen with the smoking model, drinkers who did not attend church were markedly more likely to have also tried drugs[1]. The church attendance effect was also significantly stronger for respondents from a middle class background: this meant that those who attended church and lived in more affluent areas were less likely to have tried drugs.

6.5 Reasons for drinking

Referring back to the aims of the study (Chapter 3, Section 3.1), questions were included in order to compare and contrast respondents' attitudes and beliefs relating to the use and misuse of alcohol. The following two sections therefore present and analyse data which will allow further investigation of these issues. In order to ascertain possible explanations for their reported drinking behaviour, respondents[2] were asked to read a list of 13 reasons why people consume alcohol. They were asked to indicate whether or not each reason applied to themselves by ticking 'true' , 'false' or 'don't know'. Full details are given in Figure 6.XII.

[1] Odds being increased by a factor of 37.5
[2] This section related to drinkers only, i.e. those who had consumed at least one whole drink of alcohol.

Figure 6.XII: Reasons given for drinking alcohol



The most frequently ticked reasons were 'to find out what it's like' (65.4%) and 'I like the taste' (64.1%). Other reasons commonly given were 'to get drunk' (34.8%) and 'to help me mix more easily with people' (28.4%). Peer influences were also strongly represented, with 25.6 % of respondents saying that they drank alcohol 'so as not to be the odd one out in a group' and 22.6% doing so ' because my friends drink'.

In relation to peers' influence, 17.5% of pupils stated that they drank alcohol 'so that my friends won't think I'm scared'. It should be noted that although the majority of respondents endorsed positive reasons for drinking a notable proportion did report drinking 'to help me stop worrying' (18.2%) or 'to calm my nerves and help me relax' (22.8%).

It was decided to cluster the respondents according to their stated reasons for drinking. This was conducted to determine if certain reasons could be grouped together, and consequently to determine the predictors of membership of the resulting groups and to investigate any possible differential effects on patterns of alcohol use. Hierarchical cluster analysis on repeated random samples of 10% of total cases revealed that two solutions would provide the optimum solution. K-means cluster analysis was then conducted on the whole data set, with respect to the reasons for drinking. The membership of the two clusters was as follows: Cluster 1: 219 respondents; Cluster 2: 647 respondents.

Further examination of each group revealed that the reasons most frequently given by the respondents in Cluster 1 were 'to find out what it's like' (80%), 'because my friends drink' (69%), 'not to be the odd one out' (82%), and 'so that friends won't think I'm scared' (60%). Apart from curiosity, all the other reasons are associated with peers' attitudes and behaviours. Thus this group was termed 'Peer influenced'. On the other hand, the majority of Cluster 2 reported drinking either out of curiosity (61%) or because they liked the taste of alcohol (68%). Only 7% said that they drank because their friends did', 6% drank because they did not want to be left out, and less than 3% drank to appear brave in front of their peers. As the majority of reasons reported by this group appeared to be separate from peer influences, it was given the title, 'Free drinkers'.

Logistic regression analysis was conducted to determine the predictors of membership of each group. Two models were constructed, one for males and one for females. Church attendance was also included in the models to investigate how religiosity might influence reasons for consuming alcohol. In order to elicit any effects of consumption levels, last occasion's alcohol consumption was used to classify respondents into three types of drinker - light, moderate and heavy[1]. These variables were entered into the model in a stepwise fashion. However, it proved to be impossible to find a satisfactory solution to these models. Reverting to contingency tables, each variable was cross-tabulated with the clustered reasons for drinking, and then examined in turn. This showed that drinking level (as measured by 'light', 'moderate' and 'heavy') had no difference for either gender, on the membership of groups. In light of this finding, it was removed from the logistic regression and one model was subsequently constructed to examine the predictors of group membership. The results of this are shown in Table 6.IXX (Appendix B).

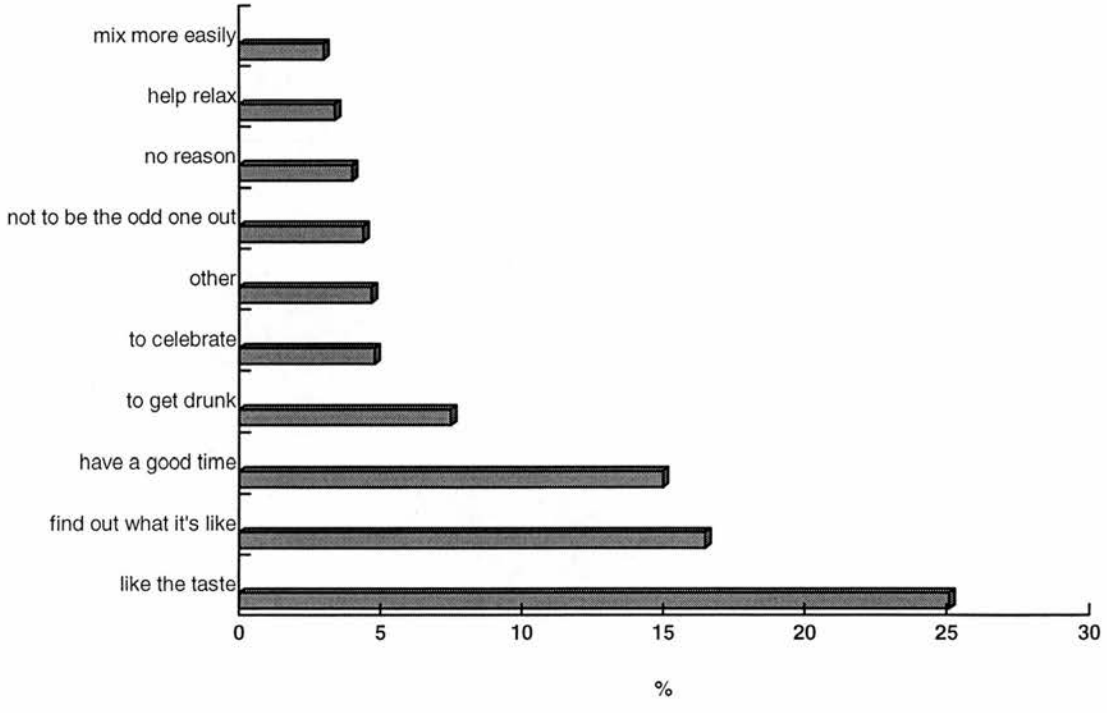
Overall, the main effects show that in Scotland the older age group (odds ratio 11-12:14-16 = 1: 0.547) and males (odds ratio males:females = 1:2.259) were less likely to be classed as 'free drinkers'. Interestingly, males who did not attend church were significantly more likely than their more religious colleagues to belong to the 'free drinkers' group (odds ratio increased by 1.863). However, the interaction effect between church attendance and gender reversed this effect for females. This interaction (odds ratio increased by 0.384) demonstrates that female church attendees were less likely to be influenced by peers in their reasons for drinking. The interaction between country and age and country and gender indicated that the age and gender effects discussed above were much less pronounced amongst respondents from Northern Ireland, i.e. the

[1] Males: Light = 1-2 units; Moderate = 3-10 units; Heavy = 11+ units
Females: Light = 1-2 units; Moderate = 3-7 units; Heavy = 8+ units

pupils in Ulster were more likely to report being influenced by their peers than those from Scotland.

Respondents were also asked to indicate, in a free response question, what was their **main** reason for drinking alcohol. The results are displayed in Figure 6.XIII below.

Figure 6.XIII: Main reason given for drinking alcohol



Again an appreciation of the taste (25.3%) and curiosity (16.6%) were the most popular motives. However, significant numbers of drinkers stated that their main reason for consuming alcohol was to get drunk or high (7.6%) or simply 'to have a good time'(15.1%). As drinking to achieve intoxication is often undertaken to experience positive feelings, in this context it *may* be said that teenagers are using alcohol for its

psychoactive abilities. However, commentators have pointed out that those who use alcohol to change their mood to one of drunkenness in which they experience positive feelings can become psychologically dependant on alcohol to enable them to function socially.

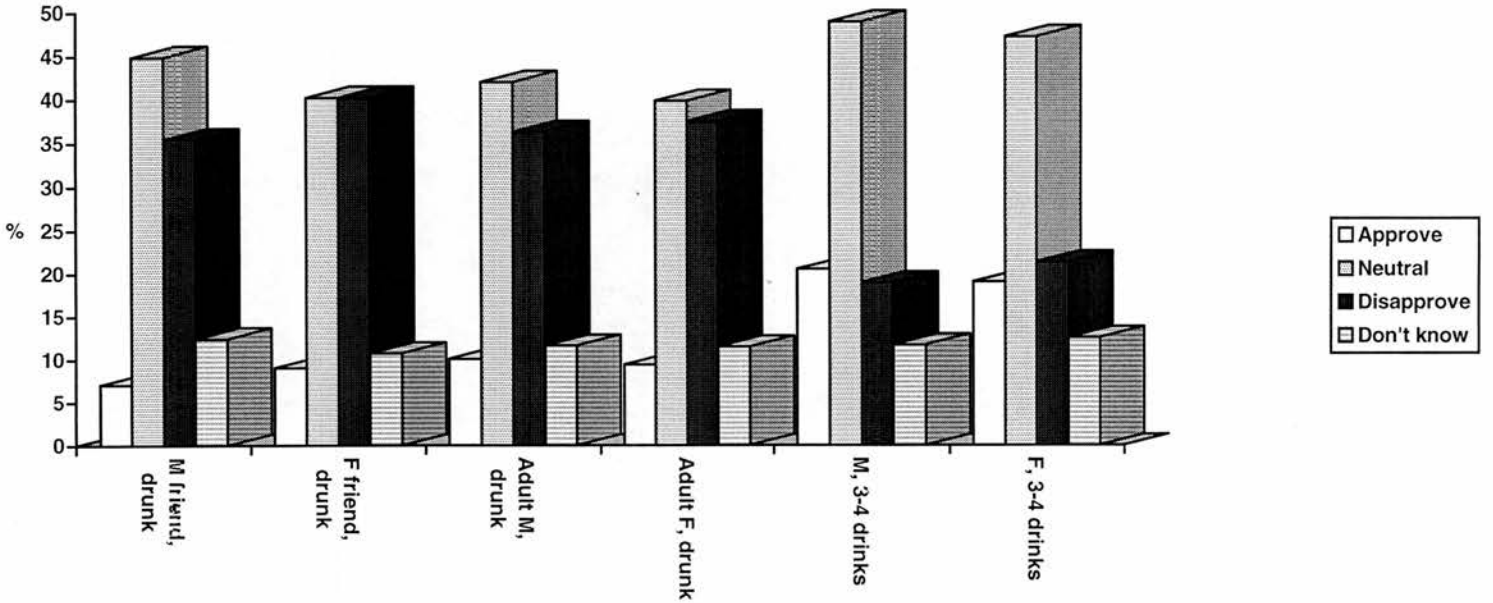
6.6 ATTITUDES TOWARDS ALCOHOL

To measure respondents' attitudes towards the consumption of alcohol and intoxication, a list of six items was devised. For each item the respondents (drinkers and abstainers) were asked to indicate whether they 'approved', 'neither approved or disapproved', 'disapproved' or 'did not know' what they thought of a number of activities. This last category was added in addition to the neutral category in order to determine whether the respondent genuinely was neither opposed to or actively favoured an activity, rather than just not having any opinion. The items in the list were as follows:

- Seeing a male friend drunk
- Seeing a female friend drunk
- Seeing an adult male drunk
- Seeing an adult female drunk
- A male friend having 3 or 4 drinks on one occasion
- A female friend having 3 or 4 drinks on one occasion

The frequency distributions for the responses to each of these items is given in Figure 6.XIV. As can seen from the distributions, the majority of responses for each item fell into the 'neutral' or 'negative' categories. For each of the items just over one tenth of the

Figure 6.XIV: Attitudes of respondents towards drinking activities



study group opted for the fall out category of 'don't know'. The activities which elicited the most positive responses were either a male or female friend consuming moderate amounts of alcohol. Each activity was cross tabulated with all the others in order to determine whether there were any associations between patterns of responses to the items. The correlation coefficients are given in Table 6.XX below, and all were significant at the 0.001 level.

Table 6.XX: Associations between items indicating attitudes towards drinking

	A	**B**	**C**	**D**	**E**	**F**
A: seeing a male friend drunk	X	**0.79**	0.48	0.51	0.42	0.38
B: seeing a female friend drunk	X	X	0.46	0.54	0.39	0.42
C: Seeing an adult male drunk	X	X	X	**0.84**	0.29	0.26
D: Seeing an adult female drunk	X	X	X	X	0.30	0.33
E: Male friend - 3 or 4 drinks	X	X	X	X	X	**0.87**
F: Female friend - 3 or 4 drinks	X	X	X	X	X	X

As can be seen from Table 6.XX, each item showed a positive association with the other, indicating that there was some degree of correlation between the distributions of answers. The highest correlation coefficients were observed between paired items, i.e. male friend drunk and female friend drunk (Pearson's r = 0.79); adult male drunk and adult female drunk (Pearson's r = 0.84); and male friend consuming 3-4 drinks and female friend consuming 3-4 drinks (Pearson's r = 0.87). One interpretation of these findings is that there was not much difference in the way in which male or

female drinking activities were perceived by this study group. Other items were less strongly related, for example much weaker associations existed between attitudes towards seeing an adult female drunk and those associated with friends consuming 3-4 drinks. It was thus decided to cluster the responses to these items to determine if certain responses were grouped together.

As before, this was done by first conducting hierarchical cluster analysis repeated random samples of 10% of the study group who answered these questions. This procedure indicated that the total group could be optimally split into two clusters. K means cluster analysis was then conducted on the total study group to give two sub-groups, the first (Cluster 1) with 551 respondents, the second (Cluster 2) with 594 respondents.

When the responses for each of these two groups were cross tabulated with their answers to each of the attitude questions, it emerged that the majority of answers provided by those in Cluster 1 fell in to the disapproval categories, with the least negative responses being towards peers' moderate drinking, where responses were spilt between negative and neutral. The responses for Cluster 2, on the other hand, were much more likely to fall in to either the neutral or approving categories. Once more, the most positive responses were to their own peers' drinking, with over one third approving of their male or female friends consuming 3-4 drinks at one occasion. Thus Cluster 1 was termed: 'Largely disapproving' while Cluster 2, was denoted 'Neutral or approving'.

In order to determine predictors of membership of each cluster, they were entered into a logistic regression model. Separate models were constructed for males and females as it was decided to include the tripartite measure of drinking status (abstainer - light - heavy) as one of the predictors. The obvious disadvantage of this approach was that it excluded the possibility of testing for differences between the sexes. However, in Bagnall's (1991a) study where a gender comparison was carried out, no significant differences were found between males and females in their self-reported attitudes towards alcohol. In the present analysis, it was also decided to include church attendance as this was shown, in the previous section, to affect reasons for and against respondents' own use of alcohol. The two models are displayed in Tables 6.XXI a and b (Appendix B).

Firstly, for males (Table 6.XXI a), it was shown that significant differences existed between Roman Catholics and Protestants in Northern Ireland which did not exist in Scotland. Thus, in Ulster only those who attended Roman Catholic schools were more likely than pupils attending Protestant schools to report approving attitudes towards alcohol consumption (odds ratio increased by 0.382). Moreover, this interaction also indicated that although Roman Catholics in Northern Ireland were significantly more likely then their Scottish counterparts to hold approving attitudes, no such difference was observed between those attending Protestant schools in Northern Ireland and non-denominational schools in Scotland. Age was shown to have a significant effect on the model, with those males aged 14-16 being more likely than the 11-12 year old group to display positive attitudes towards drinking. However, this effect was complicated by both church attendance and drinking status.

These interactions implied that the age effect just described only existed for those males who attended church and abstained from alcohol; thus 11-12 year olds who drank alcohol and did not attend church were just as likely as their older peers to hold positive attitudes towards drinking.

Church attendance also interacted significantly with religious affiliation, which showed that those males attending Protestant or non-denominational schools who did not attend church were much more likely to hold approving attitudes towards drinking (odds ratio increased by a factor of 40). As had been expected drinkers (odds ratio = 1.446), especially heavier drinkers (odds ratio = 2.489), were more likely to be positively inclined towards alcohol. This was particularly noticeable amongst the males attending a Protestant or non-denominational school (odds ratio 'light-moderate drinkers' increased by 3.6; odds ratio 'heavy drinkers' increased by 2.939). It is interesting that socio-economic status did not prove to be a significant predictor in this model.

For the females in the study group, the predictors for membership of the group more approving of drinking, were similar, although slightly less complicated than for their male counterparts. The odds ratios, displayed in Table 6.XXI b, show that although neither country nor drinking status alone affected attitudes towards drinking, a strong interaction between the two meant that females from Northern Ireland who consumed alcohol were significantly more likely than all Scottish females or than their abstinent countrywomen to hold positive attitudes towards alcohol. This effect was particularly

strong for those respondents who fell into the 'heavier drinking' category[1]. As with their male peers, older females were more likely to be approving of drinking. Although this effect was even more marked amongst those who did not attend church, it was only apparent in Scotland; thus in Northern Ireland younger and older females were just as likely as each other to be approving of drinking.

6.7 Summary and Discussion

In line with the fourth aim of the study (Chapter 3, Section 3.1), this chapter has investigated some of the main factors associated with adolescent substance use, notably personal income, leisure activities and religiosity and how these may be mediated by the demographic variables, principally country, under investigation. Moreover, in order to fulfil the second aim, an examination was also conducted of the ways in which self-reported reasons for drinking and attitudes towards alcohol were affected by the demographic variables, and how these in turn were associated with different styles of drinking. In analysing the possible effects of these variables, the particular area of interest was how they might differ between the two countries under consideration.

[1]Relative odds ratios are as follows:

	Scotland	N. Ireland
Abstainers	1	1.135
Light-moderate drinkers	1.793	5.216
.Heavy drinkers	1.162	74.797

6.7.1 Personal income and expenditure on alcohol, tobacco and other drugs

The majority of respondents reported that they had between £1 and £10 per week to spend as they liked. There were no significant differences between Scottish and Northern Irish respondents. Males, older pupils and those from poorer school catchment areas reported higher personal spending money than their respective counterparts. It might have been expected that pupils from higher socio-economic areas would be the more wealthy, but other studies (e.g. Davies and Stacey 1972 and more recently Currie, Todd and Wijckmans 1993) have demonstrated that those from the lowest social groupings (as defined by occupational status of parents) have the greatest personal financial resources. In the current exercise, it was also found that, independently of all these factors, drinkers were more affluent than those who did not drink. Although not accounting for each factor separately, similar patterns were obtained by Currie, Todd and Wijckmans (1993) in their survey of Scottish school children, and also in national surveys of pupils in Scotland, England and Wales (Marsh, Dobbs and White 1986).

Just under a quarter of the study group (271 respondents) reported having a part-time job. Older respondents, males, those living in less affluent locales (especially in Scotland) and drinkers were all more likely to have a part-time job. Again, in their study of 14-17 year olds, Davies and Stacey (1972) also found that the lowest classes were more likely to have part-time jobs while still at school. This finding may well account for the higher personal wealth reported by those from less affluent backgrounds. In fact, all these factors were associated with higher reported income.

Nevertheless, independently from all these factors it was also found that respondents from Northern Ireland were more likely than their Scottish peers to work part-time.

The majority of pupils in part-time employment earned between £5 and £20 per week, with nearly one third earning over £20. Not surprisingly, those working part-time had more money to spend on themselves than their counterparts who did not work. Moreover, a positive association was noted between those with higher earnings and those with higher personal income which indicated that pupils who worked probably tended to keep the money for themselves.

Although previous studies have found a positive association between increased income and consumption of alcohol, they did not ask their respondents how much of their money was spent buying alcohol, cigarettes or other drugs. As such information is obviously of value in determining the dynamics of how young people obtain alcohol and other drugs, it was decided to include such a question in this project.

Two-thirds of drinkers reported that in an average week, they did not spend any money on alcohol. However a positive association was observed between personal financial resources and drinking: the higher the weekly income (especially earned income), the higher the weekly expenditure on alcohol. Heavier drinkers were shown to spend more on alcohol. Therefore the finding that males, pupils from less affluent backgrounds and Northern Irish respondents all spent more on alcohol than their respective counterparts was to be expected. It is interesting to note that those from

Northern Ireland, despite having no higher weekly personal spending money, were more likely to spend that money buying alcohol.

Once again these findings confirmed trends observed in previous studies. When the results obtained from the 1988 national survey (Craig 1989) of Northern Irish school pupils were compared to data obtained in Britain by Marsh, Dobbs and White (1986), it was found that in all countries, males were less likely than females to never buy alcoholic drinks for themselves. It was also shown that the proportion who never bought alcohol decreased with age and that fewer students in Northern Ireland did not purchase alcohol for themselves. As it has already been shown in this and other studies that Northern Irish adolescents are less likely to consume alcohol with their parents, it is suggested that young people in Northern Ireland may be more likely to buy alcohol as there is less chance of them obtaining it from their parents. A possible alternative explanation could be that alcohol is more expensive in Northern Ireland than in Scotland. However, a review of regional differences provided by The Grocer (Palmer 1996) indicates that any regional differences in the prices of alcohol are eclipsed in the differences in prices between different types of retail outlet.

Although the pattern of expenditure on drugs was very similar to alcohol (with most 'users' claiming that they did not spend any money on drugs in an average week), the pattern for smoking was quite different. Only one fifth of smokers did not buy cigarettes, whereas over half reported spending over £5 on a weekly basis.

The study collected no further information which could illuminate reasons for these differences. However, it could be that those who smoked indulged their habit on a more regular basis than those who drank, and would thus spend more of their personal income on cigarettes. Evidence to support this assertion can be seen from firstly the drinking diary (Chapter 4, Section 4.5.1) where almost half of those respondents who had consumed alcohol during the week preceding the survey, had done so on one day only. This can be compared to findings discussed in Chapter 5 (Section 5.2.3) in which it was shown that the majority of smokers consumed six or more cigarettes every day. Moreover, as the minimum legal age for purchasing tobacco products in the UK is 16 years old, some of the respondents (one fifth of smokers were aged 16) were legally entitled to purchase these, and it is likely that many of those aged 14 and 15 years old could probably pass themselves off as being older when purchasing cigarettes.

A further possible explanation for these differences is that although one quarter of drinkers indicated that their most recent drinking occasion was at home, with parents (Chapter 4, Section 4.3.2), it *may* have been less likely that young people would smoke in their parents' company. The relevance of this is that, although a significant minority of respondents may well have obtained their alcohol from parents, the same may not be true for cigarettes, as national statistics suggest that there is less approval for smoking than for drinking among the general population. Some evidence for this speculation is provided by the findings that firstly, weekly expenditure on tobacco was strongly associated with daily consumption of cigarettes (Pearson's $r=0.58$; $p<0.001$); and secondly that the association between expenditure on tobacco and

weekly earned income (Pearson's r=0.47; p<0.001) was much stronger than that for expenditure on tobacco and total weekly income (Pearson's r=0.37; p<0.001).

The similarities between expenditure on alcohol and on other drugs are likely to be somewhat misleading. It is very unlikely that they would reflect similar consumption patterns, but rather the fact that those young people who have consumed drugs have done so fairly irregularly. Again evidence to support these assertions is obtained from the fairly weak associations observed between weekly income and expenditure on drugs (total weekly income Pearson's r=0.19; earned income Pearson's r=0.22; p<0.001). Nevertheless, a modest positive association (Pearson's r=0.43; p<0.001) was observed between expenditure on drugs and degree of drug use.

The stronger association between expenditure on alcohol, tobacco and other drugs and *earned* income is supported by qualitative evidence from a focus group-based study conducted for the Health Education Board for Scotland, which indicated that young people like to obtain money from sources other than parents. They considered that as they were not held as accountable for their own money, they could more easily spend this as they liked. Thus they preferred buying alcohol with earned income (Loretto, May and Bittker 1993).

6.7.2 Leisure activities

In terms of 'regular' participation in a selection of leisure activities, visiting friends and playing sports proved to be the most popular pastimes. Similar levels of

popularity have been observed in other studies (e.g. McAteer 1991; Hendry et al 1993). While other studies of youthful leisure pastimes have also indicated the popularity of physical activity (e.g. MacIntyre et al 1989, Currie and Todd 1992), it should be noted that this may be due to inclusion of compulsory school physical activities. Thus, although Currie and Todd (1992) argued that sport may have a protective effect on young people's health in that they found that school pupils who spent a significant amount of their leisure time on sports were less likely to smoke and drink, the caveat expressed by Hendry et al should be taken into account:

> '...some caution needs to be expressed in relation to the fact that physical education remains a compulsory part of the school curriculum for most children and this fact is built into most measures of physical activity. Hence these high levels of physical activity may in fact be illusory and in the longer term young people may fail to be socialised into the behaviours associated with healthy lifestyles.' (1993: 71-2)

Also popular were shopping, attending the cinema and following sport as a spectator. Overall, going drinking and to a pub came at the bottom of the order of popularity, falling behind attending a youth association or youth club. Other surveys of young people's leisure habits (e.g. Nisbet et al 1984 and Hendry et al 1993) have found that as people grow older they are less likely to belong to non-sports clubs, and that this trend is noted particularly in uniformed organisations.

Positive associations existed between complementary activities, e.g. following and playing sport and drinking levels were positively associated with attending parties, especially for females. For males only, those who followed sport more regularly were

also those more likely to be heavier drinkers, and for females only, attendance of a youth club or other association was negatively associated with drinking status.

Thus, the effects of participation in different types of leisure activities on levels of alcohol consumption do not seem to be clear cut. The findings of Davies and Stacey, that those who attend youth clubs are less likely to drink, were supported only for females in the present exercise. In their four area study (Kirkcaldy, Liverpool, Sheffield and Swindon), Roberts and Parsell (1990) found no significant relationships between levels of alcohol consumption and levels of participation in 'dry' leisure activities. Individuals who played sports, went to cinemas etc. were neither more nor less likely to be frequent drinkers than those with little involvement in such activities.

In the present study it was demonstrated that heavier drinkers were most likely to frequently take part in alcohol-related activities. These included attending parties and discos, visiting pubs and also drinking in other contexts. Not surprisingly, the popularity of such pastimes increased with age. In their survey of 15-16 year olds, Coffield et al. (1986) found that licensed premises were among that age group's favourite meeting places.

Participation levels were also higher for those with increased income; the strongest associations being observed between alcohol related activities and level of personal weekly income. In their survey of youth leisure habits, Roberts and Parsell also found that prevalence of drinking and pub attendance increased alongside respondents'

incomes. However, they believed that alcohol was a high-ranking object of leisure spending not so much because drinking was the core of leisure occasions, but because it was an incidental part of gatherings for most other recreational purposes.

To investigate further how leisure activities might differ between the counties and be mediated by other variables, including alcohol and drug use, respondents were clustered according to their participation in leisure activities. Two groups emerged, one characterised by participation in a wide variety of social activities - the active joiners - and one comprising non-joiners.

Young people from Northern Ireland, those attending schools in middle class catchment areas and those attending Protestant or non denominational schools were all more likely to be 'active joiners'. Hendry (1983) suggested that the main factors influencing leisure choices were age, gender and social class. In the present study, support was found only for the last of these. It could have been that middle class young people may have had more opportunities for leisure activities. However, as seen previously, those of lower socio-economic status had more money to spend on themselves. Moreover, in recent years there have been efforts to provide formalised leisure activities (e.g. leisure centres and youth clubs) in 'deprived' areas. Thus this finding is not easy to explain, other than by deliberate choice.

In their survey of leisure habits of Scottish teenagers, Hendry et al (1993) noted differences between the genders, with girls being more likely to be involved in casual (visiting friends) or commercialised leisure (cinemas, discos) and boys being more

likely to be involved in organised leisure, particularly sports clubs and teams. However, such differences would not have been picked up by the classification employed in the study. Hendry et al also found that those from middle class homes were less likely to hang around their neighbourhood. Nevertheless, Roberts and Parsell concluded that, in their survey, the leisure styles of young people from middle and working class homes were virtually identical.

Drinkers, especially males were more likely than those who abstained from alcohol to be 'active joiners'. Moreover, respondents who smoked and those who had used drugs were also more likely to be active participators. This finding tends to place drinking-related activities as part of 'normal' youthful leisure habits.

It appears that, for young people, drinking and visiting pubs and clubs are just part of a cluster of leisure activities, and lag behind playing sports, watching films and shopping in popularity. This view of adolescent drinking as merely one component of the spectrum of spare time activities is supported by the findings from the analysis of the leisure clusters. It was demonstrated that abstainers were more likely than drinkers to be classed as non-joiners, and not to regularly participate in other active and social leisure pastimes. It is therefore suggested that it may in fact be the non-drinkers who are displaying indicators of deviant adolescent behaviour.

6.7.3 Religiosity

The majority of respondents did claim to attend church, albeit occasionally. In accordance with previous evidence collected from the adult population, it emerged that a higher proportion of the Northern Irish pupils attended church. This difference was particularly notable for weekly attendance, where 57% of the Northern Irish group attended weekly compared to 29% of Scottish pupils. Catholics were more likely to attend church. While older females were less likely than those aged 11-12 to attend church, this difference did not emerge for males. However, for both age groups, females were more likely than males to attend church. Respondents from less affluent areas were less likely than their middle class counterparts to attend church.

In terms of affect on drinking behaviour, it was found that in Northern Ireland only, those who did not attend church were more likely than their religious counterparts to drink. Moreover, it was also revealed that in both countries, the most likely group to drink were non-Catholics who did not attend church. It is notable that in the original model predicting relative likelihood of abstention (Chapter 4, Section 4.1), it was shown that in Northern Ireland Protestants were slightly more likely to abstain from drinking. However, with the inclusion of church attendance in the model, it was seen that those attending Roman Catholic schools were only half as likely as their Protestant counterparts to have consumed alcohol. Thus, it was demonstrated that religiosity did have a significant effect on abstention rates and that respondents from Northern Ireland displayed a higher degree of religiosity as measured by church attendance. Therefore it is postulated that the abstinent aspect of Northern Irish

drinking behaviour could well have been influenced by religion. Interestingly, although, the majority of pledges not to drink had been taken by young Northern Irish Roman Catholics, this action did not appear to have a significant effect on the decision to drink.

Church attendance also had a significant effect on drinking levels amongst those who did consume alcohol. Respondents who attended church tended to report lower consumption levels. The only exception to this trend occurred among older pupils from working class backgrounds, where it was shown that mean alcohol consumption was higher amongst those who did attend church. With reference to Northern Ireland, although mean consumption levels for both males and females were still generally higher than for their Scottish counterparts, there was more of a difference between attendees and non-attendees than in Scotland. The implications of these findings are that although religious behaviour does make a difference to alcohol consumption, particularly in Northern Ireland; in that country even those males who did attend church, were still likely to be heavier drinkers.

As regards smoking and use of other drugs, it was shown that although church attendance by itself did not affect the likelihood of being a smoker or having tried drugs, drinkers who did not attend church were markedly more likely to participate in such behaviours. Moreover, in Northern Ireland only, respondents who did not attend church were more likely than those who did to smoke. Jessor and Jessor (1977) had found that church attendance was negatively associated with drinking and marijuana use, and acted to moderate 'problem' behaviour.

> 'With regard to religiosity, it should be emphasised that its control function was not seen as dependent on the specific doctrines of a given denomination, but was considered an aspect of involvement with any religion.'

A more recent survey of 13-15 year olds in England also demonstrated that those adolescents who attended church regularly held more conservative attitudes towards drug use. The authors of this study concluded that 'such influence is not only of theoretical interest, but of practical significance in understanding and interpreting patterns of behaviour amongst young people' (Francis and Mullen 1993: 670).

6.7.4 Reasons for drinking

The most common reasons ticked for drinking were curiosity and appreciation of the taste. In their survey of English 14-16 year olds, Plant et al (1990) also showed curiosity and an appreciation of the taste of alcohol to be the most popular reasons given for drinking. Just over a third of drinkers indicated that they consumed alcohol expressly to get drunk, and fewer appeared to drink for reasons related to peers. Most pupils endorsed positive reasons for drinking, but around a fifth reported drinking to stop worrying or to relieve anxiety. Cluster analysis revealed that pupils could be classified into two categories, those reporting mainly personal reasons for drinking (free drinkers) and those whose reasons were primarily associated with peers' attitudes and behaviours (peer influenced). Although drinking status did not appear to have any effect on membership of these two groups, it was found that pupils in Northern Ireland and those aged 14-16 were more likely to endorse peer-associated

reasons for drinking. As has been confirmed throughout the results, respondents living in Northern Ireland and those aged 14-16 were likely to be classed as heavier drinkers, so it is likely that there was some correlational effect in this analysis. Previous research in this area (Plant, Bagnall and Foster 1990) has shown that peer-related reasons for drinking are associated with heavier alcohol consumption amongst teenagers.

Females who attended church were less likely than all males or than females who did not attend church to report that their reasons for drinking were influenced by peers. In her survey of Scottish and English teenagers, Bagnall (1988, 1991a) suggested that the explanations for drinking given by males appeared to reinforce their lack of confidence and their concern with image. Moreover, Hendry et al (1993) found that acceptance of conformity to peer groups norms was more important to teenage males then to females, and that young people from middle class homes also felt less pressure to conform. However, McAteer (1990) surveyed teenagers in West Belfast, and discovered from qualitative evidence that very few respondents appeared to drink because of peer group pressure, but rather because of peer group support.

6.7.5 Attitudes towards alcohol

All respondents, including those who did not consume alcohol were asked to indicate their attitudes to a range of items. The majority of responses indicated neutral or even negative orientations. This would tend to support findings from other studies of young people's attitudes towards alcohol: for example in her study of 12-13 year

olds, Bagnall (1991a) found that as a group, respondents were more likely to hold attitudes of disapproval towards alcohol. The activities which elicited the most positive responses were either a male or female friend consuming moderate amounts of alcohol. Although other studies (e.g. Aitken 1978) have shown a difference in perceptions of males and females drinking, this did not appear to be the case in this study. Once again the respondents were grouped according to their answers, one group holding largely disapproving attitudes, the other neutral or approving.

Not surprisingly, drinkers and particularly heavier drinkers were more likely to be approving towards alcohol. In particular, female 'heavy drinkers' in Northern Ireland were more likely to hold approving attitudes.

The tendency for young people to develop increasingly positive attitudes towards alcohol as they leave childhood and progress through adolescence is well documented (e.g. Bagnall, 1991a; Fossey 1994). It is usually presumed that this attitude change takes place as young people come into contact with alcohol and start their own 'drinking careers'. However, findings from the present study would tend to qualify such a trend. In particular it was shown that for males and females church attendance has a moderating effect on attitudes towards alcohol. Those individuals who attended church (in either denomination) were more likely to hold negative attitudes towards alcohol whatever their age; the corollary of this effect being that non-attendees aged 11-12 were just as likely as their older peers to view drinking in a positive light. It is also important to note that these effects were independent of whether or not the respondent consumed alcohol.

The results presented in this chapter have shown that consumption of alcohol, tobacco and illicit drugs was influenced by level of personal income, leisure habits and church attendance. In addition, reasons for drinking and general attitudes towards alcohol were also affected by alcohol consumption. Moreover, to varying extents these factors were influenced by and mediated the demographic influences related to youthful drinking and drug use as investigated in Chapters 4 and 5. Out of all of these factors, it was religion which was most strongly associated with differences between Scotland and Northern Ireland. Thus, O'Connor's (1978) finding that religion is a major correlate of alcohol consumption in amongst young people in Ireland, was supported in this study. Nevertheless, she also stated that family-related variables also had a profound effect on drinking behaviour. To investigate this further, the next chapter will commence with an examination of several factors related to family structure and parental use of and attitudes towards alcohol.

CHAPTER 7

CORRELATES AND PREDICTORS II: FAMILY AND PEERS

7.0 INTRODUCTION

The importance of family structure and parental support in relation to adolescent alcohol use and attitudes towards drinking has been examined by several authors (e.g. O'Connor, 1978; Foxcroft and Lowe, 1991; Noller and Callan, 1991; and Hendry et al, 1993). Chapter 1 (Section 1.2.1) presented an overview of some of the main contributions to the discussion. In view of this importance, several questions pertaining to family details, parental drinking and parental attitudes towards alcohol were included in the survey instrument. Possible associations with adolescent drinking were explored and the results will be presented in this chapter.

A further set of factors to receive considerable attention in the literature is that encompassing the possible influences of peers on adolescents' use of alcohol and psychoactive substances. Again, a discussion of some of the principal views were presented in Chapter 1. To investigate possible influences further, this chapter will consider the effects of peers' alcohol consumption on respondents' self-reported drinking behaviour and attitudes towards alcohol. This section will also include non-drinkers. In addition, the chapter will conclude with a more detailed examination of those who abstain from alcohol and their reasons for doing so. In line with the aims of the study (Chapter 3, Section 3.1), the emphasis once again will be on how these factors interact with the demographic variables under consideration, the principal focus of interest being possible differences between Scotland and Northern Ireland..

7.1 FAMILY STRUCTURE

7.1.1 Parental details

The respondents were asked to indicate with whom they lived. The majority (81.2%) stated that they resided with both mother and father. However, a significant proportion of the study group lived in 'non-standard' families. Full details are given in Table 7.I.

Table 7.I: With whom do you live?

		n	%
Mother & Father		952	81.2
Mother only		144	12.3
Father only		17	1.6
Mother & Stepfather		24	2.1
Father & Stepmother		10	0.9
Other		22	2.0
Total		1169	100

National figures (Social Trends 1995) also show that a declining proportion of the population of the United Kingdom live in the 'traditional' nuclear family consisting of a married couple with dependent children, even though this is still the most common type of household.

Those respondents who did not reside with both parents were combined into one category and the dichotomous variable with category headings: 'living with others' vs. 'living with mother and father' formed the dependent variable in a logistic regression model. The results of this model, which can be seen in Table 7.II, show that a three-way

interaction between country, gender and socio-economic status did significantly affect the likelihood of a respondent living apart from one or both of his/her parents. This interaction can be interpreted as follows: in Scotland, both male and female respondents from less affluent backgrounds were less likely than their middle class counterparts to live with both parents[1], with the difference between the genders being non-significant. This effect caused by socio-economic status was replicated in Northern Ireland. However, in addition, a significant effect emerged between the genders: females from working class backgrounds in the Province constituted the group most likely to not to live with both parents (odds ratio increased by 3.615).

Two of the other demographic predictor variables, religious denomination and age exerted significant main effects on the variable under consideration. These effects showed that those attending Protestant or non-denominational schools (odds ratio 1.385:1) and those respondents in the older age group (odds ratio 1.893:1) were more likely than their respective counterparts to be living in a non-nuclear family.

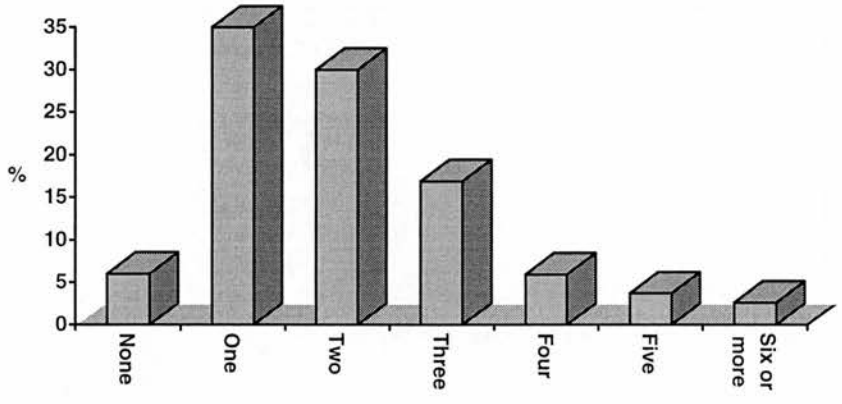
Age and socio-economic status also displayed an interaction effect which modified the main effects so that the socio-economic effect was stronger for those respondents aged 11-12 than for their older peers.

[1]Odds ratio for males = 3.096:1; for females 3.226:0.942, i.e. 3.425:1.

7.1.2 Family size

To collect additional information about each respondent's family, a question was asked about the number of brothers and sisters. As can be seen from Figure 7.I below, most respondents reported being one of two or three children (i.e. having one or two siblings).

Figure 7.I: Number of brothers and sisters

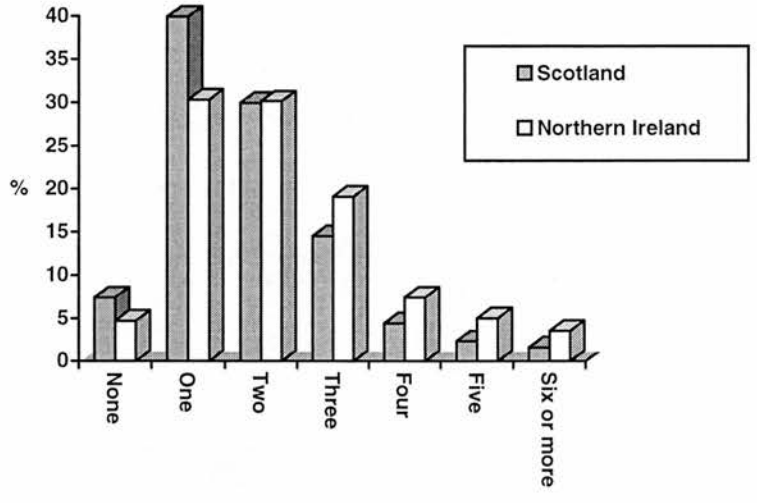


Although 70 respondents (6%) were 'only' children (i.e. they had no brothers or sisters), a significant minority (29.1%; 339 respondents) had three or more brothers or sisters. Thus, the overall mean family size was 3.03 children, which is considerably higher than the population mean family size of 1.8[1] (Social Trends 1995). However, these national findings also highlighted the point that one family households with three or more dependent children are three times more likely in Northern Ireland than in either England or Wales, and twice as likely as in Scotland. This could therefore explain the discrepancy in that, compared to the overall population of the United Kingdom, the Northern Irish

[1] This figure represents the UK average number of children per woman in 1993.

were hugely over-represented in the study group considered for the present exercise. When the variable measuring family size was divided by country, it did emerge that significant differences existed between Scotland and Northern Ireland. The nature of these differences is illustrated in Figure 7.II. This shows that respondents residing in Scotland were more likely to be part of a smaller family, whereas those from Northern Ireland were more likely to come from a family with four or more children (three plus siblings).

Figure 7.II: Number of siblings by country



A further possible explanation for this discrepancy is that the present study group contained a higher proportion of respondents from Roman Catholic families than would be found in the general population. This could have affected mean family size as Roman Catholic families tend to be larger in that their religion proscribes the use of artificial birth control measures. A straight division of the study group by religious denomination is illustrated by Figure 7.III below, and did show a significant difference between Roman

Catholics and Protestants that would not have been likely to have occurred by chance (x^2=156.970; d.f.=6; p<0.001).

Figure 7.III: Number of siblings by religious denomination

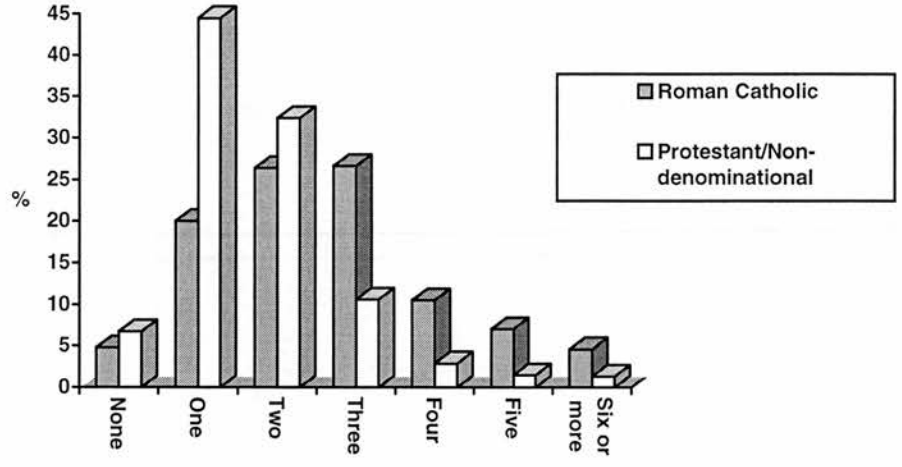


Figure 7.III shows that a greater proportion of the Roman Catholic respondents belonged to larger families. However, in order to determine if there was any interaction between these two variables, or if any other variable was affecting family size, analysis of variance was conducted on number of brothers and sisters[1] with respect to the five main demographic predictor variables.

From the results of this analysis mean family size was shown to be significantly affected by country, religious affiliation and social class, both independently and in interactions. Independently, those respondents living in Northern Ireland, Roman Catholics and those

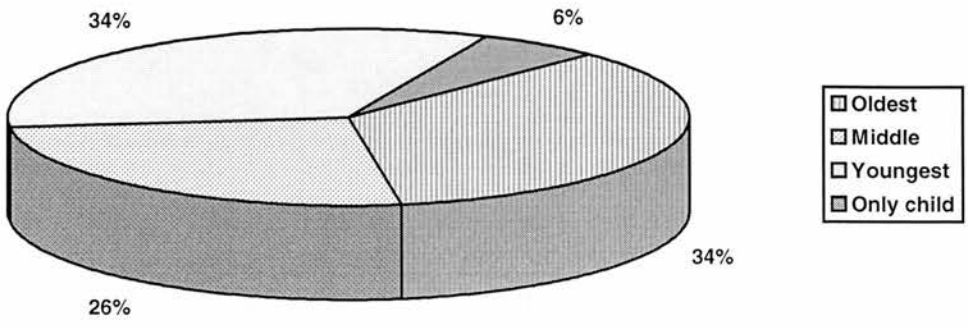
[1] As can be seen from Figure 7.I, this variable was positively skewed, and was thus subjected to logarithmic transformation, before the analysis of variance procedure (which requires a normally distributed dependent variable) could be carried out.

from poorer backgrounds all came from larger families[1]. The interaction effect ($F_{1,1091}$=31.057; p<0.001) showed that the largest mean family size (4.14 children) occurred amongst Northern Irish Roman Catholics attending secondary schools, generally in areas of lower socio-economic status, while the smallest families (2.6 children) were reported by those respondents living in Scotland and attending non-denominational private schools. These findings lend support to the patterns identified in national statistics as outlined above.

An adjunct to this question had asked the respondents to indicate how many of their brothers and sisters were older than them. A cross tabulation of this information with family size could subsequently be used to determine the respondent's position in the family order, i.e. whether the respondent was an elder/oldest child or a middle child or the younger/youngest in their family. A new variable, family position was created, which divided the respondents into these three categories plus a group for those children with no siblings. The overall distribution can be seen in Figure 7.IV. This shows that about one third of the respondents were the oldest in their family, about the same proportion were youngest children, just over a quarter were in the middle, and only 6% had no siblings.

[1] Country: $F_{1,1091}$=15.170; p<0.001. Denomination: $F_{1,1091}$=117.785; p<0.001. Socio-economic status: $F_{1,1091}$=5.458; p<0.05.

Figure 7.IV: Postion of respondent in the family



This variable was examined in a logistic regression model (table not presented). Briefly the results of this analysis showed that male respondents from Northern Ireland were more likely to fall into the category of middle child, and that Protestants were less likely to come into that grouping. These results can be explained by the fact that, as outlined above, larger family sizes were to be found in Northern Ireland and among Roman Catholics. However, an interaction between country and gender is not so conveniently accounted for: this showed that Northern Irish females were less likely to be a middle or younger/youngest child than to be the oldest.

7.1.3 Effects of family structure on adolescent substance use

It was then decided to examine how the variables relating to family details affected the respondents' likelihood of drinking, smoking and having used drugs. It was decided to use only the first two variables in these analyses, as the third, family position, was very

heavily influenced by family size[1], and so would not contribute to a parsimonious solution.

Nevertheless, straightforward cross tabulations revealed that family position did affect drinking behaviour (x^2=12.293; d.f.=3; p<0.001), smoking behaviour (x^2=16.465; d.f=3; p<0.01) and drug use (x^2=12.052; d.f.=3; p<0.01)[2]. Although the exact nature of the differences cannot be precisely stated from these calculations, examination of the data showed that the ratio of drinkers to abstainers was higher for the youngest children grouping - almost 84% of them were drinkers, as opposed to around three-quarters of all the other groups. As regards tobacco use, prevalence of current smoking was twice as high for those children who appeared in the middle and youngest groups as compared to oldest or only children. A difference, although not as great in magnitude, did exist in the same direction for degree of drug use. Accordingly, middle and youngest children were more likely to have tried drugs than their counterparts who were oldest or only children.

The resulting models from the logistic regression analyses can be seen in Tables 7.III, 7.IV and 7.V (Appendix B). They refer to drinking behaviour, smoking behaviour and illicit drug use respectively. Dealing firstly with drinking behaviour, Table 7.III displays the relative odds of predicting that a respondent had consumed alcohol. The effects from the original model on drinking status (See Chapter 4, Table 4.I) are replicated. Thus it

[1] For example a respondent could be a middle child only in a family with three or more children.
[2] Checks were run to determine if , allowing for illogical combinations, some family sizes were characterised by more oldest, middle or younger children. This did not prove to be the case. Thus, for example, of those respondents who had one sibling, in half of these cases they were the elder of the two; where there were two siblings, equal proportions were oldest, middle and younger children. Similar patterns existed for larger family sizes. Therefore it can be stated with some degree of confidence that these findings can be attributed genuinely to the respondents' position in their family order.

was once again shown that country, age, gender, socio-economic status and religious denomination did affect the likelihood of drinking. However, the additional variables of family structure and size both significantly affected the model in interactions with some of the main demographic predictors.

An interaction between denomination and family size showed that it was only Protestants who came from a small family (1 or 2 children) who were more likely than their Roman Catholic counterparts to drink[1]; on the other hand those Protestants who came from medium (3 or 4 children)[2] or large (5 or more children)[3] families were actually less likely than their Roman Catholic counterparts to be drinkers. Additionally, the three-way interaction between gender, family size and religious denomination, showed that female Protestants who came from medium sized families were the most likely combination to drink.

It might have been expected that respondents not living with both parents would be more likely to drink. Although, for Scotland, the model shows a slight increase in odds for this scenario, this was not statistically significant, i.e. it could have happened by chance. However, this variable interacted with country and age to significantly affect the likelihood of drinking[4]. The relative odds show that older respondents from Scotland and

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[1]Odds ratio increased by 2.430
[2]Odds ratio increased by 0.170
[3]Odds ratio increased by 0.172
[4]Relative odds of drinking vs. abstaining are as follows:

	Scotland		N. Ireland	
	11-12	14-16	11-12	14-16
Parents	1	5.877	0.380	2.066
Others	1.581	2.341	0.165	43.214

those aged 11-12 in Northern Ireland who were living with both parents were more likely than their counterparts living in non-nuclear families to have consumed alcohol. However, the most dramatic effect revealed that the group most likely to drink was that containing older Northern Irish respondents who did not live with both parents.

Furthermore, an interaction between family size and family structure proved to significantly affect the likelihood of drinking. This showed that those respondents living in medium (odds ratio increased by 7.486) or larger (odds ratio increased by 12.949) families which were not headed by both parents were more likely to consume alcohol.

Drinking status was also included in the two models predicting smoking and drugs use status, as it had been shown (See Chapter 5, Sections 5.2-5.3) that drinkers were markedly more likely than abstainers to smoke and to have tried other drugs. The results of these two models can be seen in Tables 7.IV and 7.V (Appendix B). The odds ratios in each model showed fairly similar effects to their 'original' form, that is the models formulated with the five main demographic predictors plus drinking status, without the addition of family variables. However, there were also some notable differences and thus it is worth explaining the results of each model in turn.

Firstly, for smoking (Table 7.IV), as before, it was shown that age, socio-economic status and drinker status all affected the likelihood of a respondent smoking. Accordingly, those pupils aged 14-16, those from poorer school catchment areas and those who consumed alcohol were all more likely than the 11-12 year olds, those

residing in middle class areas and abstainers to smoke. As before it was also shown that a gender difference existed only in Northern Ireland; females from Ulster were more likely than the males to smoke. This difference did not occur in Scotland. Country also interacted with age and with drinker status with the effect that the difference between the two age groups was reduced in Northern Ireland, and in the Province drinkers were even more likely than abstainers to also smoke. Family structure did not prove to be a significant predictor of smoking behaviour, and interestingly, denomination did not exert any effect on the model. However, family size did have an effect: it was shown, that in Northern Ireland only, those respondents who came from medium (odds ratio increased by 2.232) or large (odds ratio increased by 4.358) families were more likely than those from small families to smoke.

Secondly, with reference to illicit drug use, the odds ratios in Table 7.V show that drinkers, the older age group and males were more likely to have used such substances. However, the difference between males and females was less marked among the older age group and amongst drinkers. Those respondents attending secondary schools in Northern Ireland (hence those from poorer areas within that group) only were more likely to have tried drugs. No difference was found between middle class and working class respondents in the Scottish study group. On this occasion there was a clear effect due to family structure: the odds of those respondents who lived in a 'non-nuclear' family having tried illicit drugs were twice (odds ratio=1.906) those who lived with both parents. Family size exerted a significant effect in conjunction with socio-economic status. This showed that those respondents who came from large families in poorer

school catchment areas were more likely to have used illicit drugs (odds ratio increased fivefold).

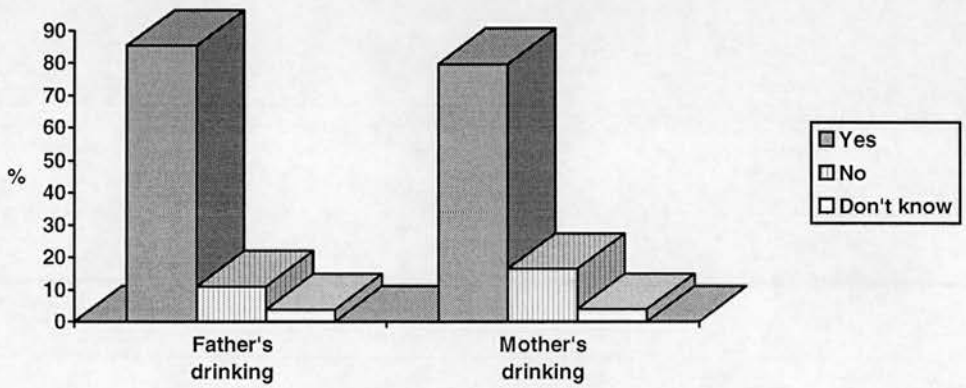
7.2 Parents

There has been much discussion in the literature examining the potential effects of parental drinking and attitudes towards alcohol over their offspring's drinking attitudes and behaviour. Unfortunately, due to the sensitive nature of the subject, it is often not easy to collect extensive and searching information which would lead to an increased understanding of the dynamics of such processes. This was especially true of the present study where information on parents' drinking habits had to be restricted to a simple yes/no dichotomy. In fact, in order to gain the schools' and parents' approval of the study, it was necessary to reassure them that no questions on family drinking habits would be included in the survey instrument. Nevertheless, schools and parent-teacher committees did approve the inclusion of one question in this area. Slightly more detail was obtained regarding the respondents' view of their parents' attitudes towards alcohol, and it is hoped that these findings will add valuable information to this area.

7.2.1 Parents' drinking

Firstly, as regards drinking habits of parents, the question included was worded as follows: 'Does your father (or stepfather or other male guardian) ever take a drink - even just occasionally?' The latter part of the question was added to try to remove any judgment from the tone of the inquiry. A similar question was asked about mothers' drinking. The respondents were asked to reply 'yes', 'no' or 'don't know' . The final category was added as it was thought that there might be several respondents who would be unaware of their parents' drinking behaviour. The responses to these questions are given in Figure 7.V below.

Figure 7.V: Details of parents' drinking habits



As can be seen from Figure 7.V, the majority of respondents reported that their parents did consume alcohol: over 85% of respondents reported that their father or other male guardian (henceforth referred to as father) consumed alcohol, with almost 80% claiming that their female parent (henceforth referred to as mother) drank, albeit occasionally. As was outlined in Chapter 2A, national statistics for the adult population with respect to drinking vary between Northern Ireland and the rest of the United Kingdom, with a

higher proportion of adults in Northern Ireland abstaining from alcohol. In light of these differences, it was thought to be relevant to examine the responses by country.

The distributions of answers were shown to differ significantly between Scotland and Northern Ireland. Thus, according to their offspring, 88% of fathers of Scottish respondents were drinkers, as compared to 82% of fathers of respondents from the Northern Irish study group (x^2= 11.02; d.f.=2; $p<0.01$). The differences were greater for reported mothers' drinking: 85% in Scotland, compared to 75% in Northern Ireland (x^2=18.51; d.f.=2; $p<0.001$). Logistic analysis of these variables (tables not presented) confirmed that, taking all the other demographic variables into account, the Northern Irish respondents were more likely to report that their parents did not consume alcohol. The only other variables to significantly affect the likelihood of parents' drinking were socio-economic status and family size. The former effect showed that those respondents from working class backgrounds were more likely to report that their parents did not drink; the latter revealed that mothers and fathers heading large families were, according to their offspring, more likely to abstain.

It is interesting to note the number of missing responses to this question: twenty respondents did not answer the question relating to fathers' drinking and 10 did not answer the item relating to mothers'. Possible reasons for this high incidence include the fact that, as was seen in Section 7.1, some children were not living with their parents, although they could have opted to complete the 'don't know' category. However, the researcher was aware of a number of occasions during the data collection, when some of

the respondents complained about these questions, claiming that they had been told no questions would be asked about family drinking habits. These individuals were subsequently told that they did not have to complete these items if they did not wish to do so. Thus it may be, as discussed briefly above, that this information is fairly sensitive and underlies some of the difficulties of collecting suitable data.

7.2.2 Effects of parents' drinking on offspring's consumption of alcohol

In order to examine if respondents' drinking was affected by their parents' choice whether or not to drink, two log-linear models were constructed, one for males and one for females. The negative and unsure responses to parents' drinking were combined into one category and the two dichotomous variables[1] were fed into the models predicting levels of drinking (See Chapter 4, Table 4.XIII). The results of these models are displayed in Tables 7.VI a and b (Appendix B).

The models for the two genders were very similar. For this reason, although full details are provided for the results from each model, they will now be discussed together. It was shown that if either a respondent's mother or father abstained from alcohol, then the respondents themselves were significantly less likely to abstain from alcohol, i.e. they were more likely to be drinkers. This effect, although still present, was not as marked when both parents or guardians did not drink[2]. It was also moderated for those

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[1] Fathers' drinking YES/NO and Mothers' drinking YES/NO.

[2]For example, for males the relative odds of abstaining from alcohol are as follows:

	Father drinks	Father abstains

respondents from a less affluent background who reported that their mothers did not drink. On the positive side, males and females with abstinent mothers were also less likely to fall into the 'heavy drinking' categories (odds ratio for males increased by 0.506, and for females 0.448).

7.2.3 Parental attitudes towards alcohol

A further item in the survey instrument attempted to supplement this scant information relating to parents and alcohol. A ten-item question was included which measured the respondents' perceptions of their parents' attitudes towards a selection of drinking activities. The items were as follows:

1. Respondent consuming an alcoholic drink at home, e.g. with a meal
2. Respondent consuming an alcoholic drink at a party
3. Respondent consuming an alcoholic drink in a public bar, with friends
4. Respondent drinking in other places
5. Seeing the respondent drunk
6. Seeing a man drunk
7. Seeing a woman drunk
8. Respondent consuming 3-4 drinks on one occasion
9. A man consuming 3-4 drinks on one occasion
10. A woman consuming 3-4 drinks on one occasion

As with the questions on parents' drinking this was first presented for fathers' attitudes and then replicated for mothers' opinions. For each of the items, the respondents were asked to indicated whether they thought their father/mother would 'approve', 'neither

Mother drinks	1	0.074
Mother abstains	0.16	0.171

approve or disapprove', or 'disapprove' of the activity. As with respondents' own attitudes towards drinking activities, an opt out category of 'don't know' was included. It was felt, that as with drinking behaviour, if the respondent did not live with their mother or father or both then they may well be unaware of their attitudes towards alcohol. Even with this category between 30 and 35 respondents did not complete each question. Full details of the responses to each item are presented in Table 7.VII (Appendix B).

An initial perusal of these results indicates that the majority of respondents felt that their parents would disapprove of alcohol-related activities involving them drinking away from the home, and presumably outside parental control. For every item, mothers were perceived as being more disapproving than fathers. The only items not to score highly on disapproval involved attitudes towards adults' drinking behaviour. As with respondents' own attitudes, each item was correlated with all the others to examine the strength of association between the various responses. Although all the responses proved to be significantly associated with each other, these associations were mostly at best moderate. For example, considering the first item, respondent having an alcoholic drink at home: for both parents, the strongest associations were between this and respondent consuming an alcoholic drink at a party (Pearson's $r=0.38$ for father; Pearson's $r=0.43$ for mother; $p<0.01$). This could be interpreted as follows: although respondents perceived that their parents would approve of them having a drink at home in their company, other drinking activities would not be similarly encouraged. The strongest associations were observed between seeing a man drunk and seeing woman drunk (Pearson's $r=0.88$ for father; Pearson's $r=0.87$ for mother; $p<0.001$) and a man consuming 3-4 drinks on one occasion

and a woman likewise (Pearson's r=0.89 for father; Pearson's r=0.93 for mother; $p<0.001$).

These results would tend to indicate that the respondents perceived that their mothers and fathers held fairly similar opinions about alcohol. Cross tabulations of mothers' with fathers' attitudes supported this: with the exception of seeing the respondent drunk (Pearson's r=0.55; $p<0.001$) and the respondent drinking in other places (Pearson's r=0.59; $p<0.001$), associations between mothers' and fathers' attitudes were shown to be strong. For example, a correlation coefficient of Pearson's r=0.79 ($p<0.001$)was observed between mothers' and fathers' responses to the respondent consuming alcohol in the home.

Given these patterns it was decided to cluster the answers to the questions to ascertain whether distinct groups with respect to attitudes could be achieved. Mothers' and fathers' attitudes were clustered separately. The clustering process followed the same procedure as was used for attitudes of respondents, with hierarchical cluster analysis being conducted on repeated random samples of answers to determine the optimum number of groups, followed by K-means procedure. For both mothers' and father's attitudes, the study group was split optimally into three groups. The details of these are given in Table 7.VIII below:

Table 7.VIII: Details of mothers' and fathers' attitudes, clustered

Cluster Number		Fathers' attitudes		Mothers' attitudes	
		n	%	n	%
1		260	23.4	232	20.7
2		444	39.7	400	35.7
3		413	36.9	488	43.6
Total		1117	100%	1120	100%

Cross-examination of these clusters with the answers to the various attitudinal items revealed that, according to respondents, those fathers and mothers in Group 1 were most likely to hold approving attitudes towards the controlled consumption of alcohol (approving the consumption of 3-4 drinks and the respondent drinking at home and other locations). Nevertheless, the majority of this group still disapproved of seeing the respondent drunk. This Group was termed 'Approve, controlled'. Group 2 contained those replies which indicated that the perception of mothers and fathers' attitudes were that they adopted a fairly disapproving stance when it came to any of the items on the list connected with respondents' drinking, although a neutral position was indicated for drinking activities for adults. Thus this Group was titled: 'Disapproving/neutral'. The final Group contained the replies most likely to be negative towards all aspects of all alcohol consumption. Therefore it was termed the 'Disapprove strongly' group.

The two sets of clusters were also compared with their respective measure of drinking behaviour. For both mothers and fathers there was a significant difference in membership according to drinking status (fathers: $x^2=26.331$; d.f.=2; $p<0.001$; mothers $x^2=29.654$; d.f.=2; $p<0.001$), with 91% of fathers and 87% of mothers in the approving

group consuming alcohol, compared to only 79% and 72% respectively in the disapproving groups.

7.2.4 Effects of parental attitudes on respondents' drinking

As with the dichotomous measure of parents' drinking behaviour, log-linear models were constructed to include the effect of parental attitudes with the previous identified demographic predictors of respondents' drinking. Due to the high degree of collinearity in effects outlined above, it was decided to construct separate models for fathers' and mothers' attitudes. As with other models predicting drinking behaviour males and females were also analysed separately. This gave a total of four models, which can be seen in Tables 7.IX a,b,c and d (Appendix B).

The basic pattern to arise from of all the models was that perceived parental attitudes towards alcohol did have substantial and statistically significant effects on their offspring's drinking habits. Thus for both genders, where parents fell into the 'Disapproving/neutral' or 'Disapprove strongly' categories, the respondents were more likely to themselves abstain from alcohol and be particularly less likely to be 'heavy' drinkers[1]. Interestingly these effects appeared to be even stronger for mothers' attitudes than for fathers' attitudes.

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[1]For example, the odds ratios presented in Table 7.IX a - Fathers' attitudes, male respondents - show the following:

	Abstaining	Heavy drinking
Disapproving/neutral	5.686	0.159
Disapprove strongly	8.491	0.085

To a varying extent between the models, age also interacted with the variables measuring attitudes. It had been shown both in previous models and on this occasion that those respondents aged 14-16 were much more likely than the 11-12 year olds both to consume alcohol and to be classified in the heavier drinking categories. The interactions also observed can be interpreted as follows: firstly for males it was shown that where fathers held mildly disapproving attitudes towards alcohol, older males were just as likely as their younger counterparts to abstain from alcohol. For females the effect was even stronger: again where fathers were perceived to be mildly or more seriously disapproving of alcohol, older females were just as likely as their younger counterparts to abstain from alcohol.

Where mothers' attitudes towards alcohol were concerned, age and socio-economic status both appeared to affect the influence of mothers' attitudes. For both males and females, the effect of the respondent being more likely to abstain from alcohol when the mothers' attitudes were disapproving was much stronger for middle class respondents than for their working class counterparts. For females, where the mothers disapproved strongly of alcohol, the 'protective' effect against drinking was curtailed for the older respondents. For males, a three-way interaction appeared between age, socio-economic status and drinking status. This indicated that older males from poorer backgrounds whose mothers disapproved of drinking were the most likely males to abstain from drinking. Moreover, in all cases, where the mother was thought to hold strongly

disapproving attitudes towards alcohol, males were all more likely to abstain from drinking[1].

An interesting interaction with denomination appeared which showed that, although both males and females from Protestant schools were less likely than their Roman Catholic counterparts to drink when mothers showed approving attitudes towards alcohol, this denominational effect disappeared when mothers were disapproving. The final effect of note, which occurred for females only, showed that females in Northern Ireland whose mothers disapproved of alcohol were even more likely than their Scottish counterparts to abstain from alcohol (odds ratio increased by 1.709 - Table 7.IX d).

These findings reported above were observed to be closely related to the effects of respondents' own attitudes on their drinking habits (See Chapter 6, Section 6.6). Therefore, it is not surprising that cross tabulations of parents' attitudes (clustered) with respondents' own attitudes showed that these were not independent (fathers' attitudes: $x^2=109.409$; d.f.=2; $p<0.001$: mothers' $x^2=139.586$; d.f.=2; $p<0.001$). Comparisons revealed that for those respondents who stated that their fathers were more approving towards alcohol, over 70% themselves exhibited approving or neutral attitudes towards drinking. Seventy-four per cent of respondents who reported that their mothers held approving attitudes concerning drinking themselves displayed approving or neutral

[1]Relative odds of males abstaining when mother's attitudes are strongly disapproving are as follows:

	11-12	14-16
Middle-class	12.949	2.875
Working-class	12.469	117.823

attitudes. In contrast, nearly 70% of those who returned replies indicating that their parents disapproved strongly of alcohol themselves came under the disapproving categories.

An extremely interesting point to arise from the four models is that country was no longer a significant main predictor of drinking status, especially in relation to abstaining from alcohol. This can be compared to the model presented in Chapter 4 (Table 4.XIII), where it was shown that males and females from Northern Ireland were more likely to abstain from alcohol. From this, it may be concluded that parents' attitudes replaced the country effects to an extent..

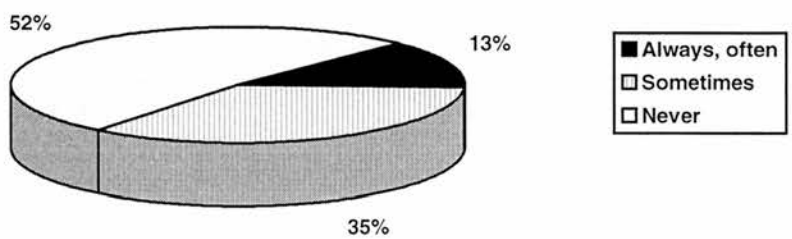
7.3 Influence of Peers

Some measure of the influence of peers on respondents' drinking behaviour has already been addressed in the analysis of reported reasons for drinking. Full details are provided in Chapter 5, Section 6.5, but to recap briefly: overall, it was shown that members of the older age group, males, and those from Northern Ireland were more likely to be classed as 'Peer influenced' in their self-reported reasons for drinking alcohol. Such reasons included: 'because my friends drink'; 'not to be the odd one out' ; and 'so that friends won't think I'm scared'. Those comprising the other cluster of drinkers - so called 'Free drinkers' were more likely to report drinking either out of curiosity or because they liked the taste of alcohol. Only a handful of respondents in this group said that they drank for reasons associated with peers.

7.3.1 Perceived pressure to drink

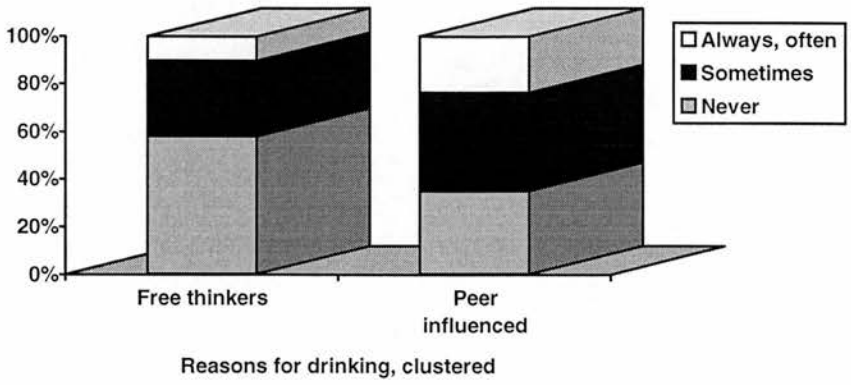
However, to consider the idea of peer influence (or 'peer pressure') further, information was obtained about respondents' perceived pressure to drink. This was measured by assessing attitudes to the question: 'Do you ever feel that you have to drink alcohol to have a good time?' In response to this, 52% of drinkers replied 'never', 34.7% 'sometimes', and 13.3% 'often' or 'always'. The pattern of responses is illustrated by Figure 7.VI below.

Figure: 7.VI: 'Do you feel that you have to drink alcohol in order to have a good time?'



When the clustered reasons for drinking were compared to this perceived pressure to drink, chi-square analysis revealed that perceived pressure to drink was not independent from reported reasons for drinking (x^2=41.17; d.f.=2; p<0.001). Visual representation of the data (Figure 7.VII below) reveals the nature of this dependence: that is those respondents giving 'peer influenced' reasons for drinking were more than twice as likely as those from the 'free drinkers' group to report that they always or often felt that they had to drink. In contrast, more of the free drinkers indicated that they never felt impelled to consume alcohol in order to enjoy themselves.

Figure 7.VII: Perceived pressure to drink by reasons for drinking, clustered



The variable measuring perceived pressure to drink was then entered into a log-linear regression model (See Table 7.X, Appendix B) in order to determine the significant predictors of these observed patterns of responses. As with the reasons for drinking, log-linear regression analysis of these answers revealed that those from Northern Ireland were more likely to report that they felt they had to consume alcohol to have a good time: the odds of the younger Northern Irish respondents replying 'always/often' were more than seven times those of their Scottish counterparts, but a strong interaction with age reduced this difference amongst the 14-16 year olds. Age and gender both exerted significant effects on the model, with males and older respondents being more likely to experience peer pressure 'always or often' to consume alcohol. However, an extremely strong interactive effect between these two variables meant that the gender difference was much reduced for older females. Moreover, females aged 14-16 years old were more likely than older males to report that they 'sometimes' felt pressured to consume alcohol.

Protestants (odds ratio increased by 1.644), particularly females (odds ratio further increased by 1.618), were more likely to reply that they never felt impelled to consume alcohol. Socio-economic status also significantly affected the model, with those from a poorer background (particularly males) being more likely than their wealthier counterparts to report that they 'always or often' felt that they were under pressure to drink (odds ratio increased by 2.707).

As these demographic characteristics were also those associated with the increased likelihood of heavier drinking (see Chapter 4, Section 4.3.4), it would be expected that perceived pressure to drink would have some sort of significant association with amount of alcohol consumed on each drinking occasion. Analyses conducted between perceived pressure to drink and quantity of alcohol consumed on most recent drinking occasion and on the greatest amount of alcohol ever consumed on one occasion revealed moderate associations (respective Pearsons' $r=0.39$; 0.42; $p<0.0001$). These associations indicated that those respondents who 'sometimes', 'always or often' felt that they had to consume alcohol to enjoy themselves were also more likely to have consumed greater quantities of alcohol as measured by these two variables.

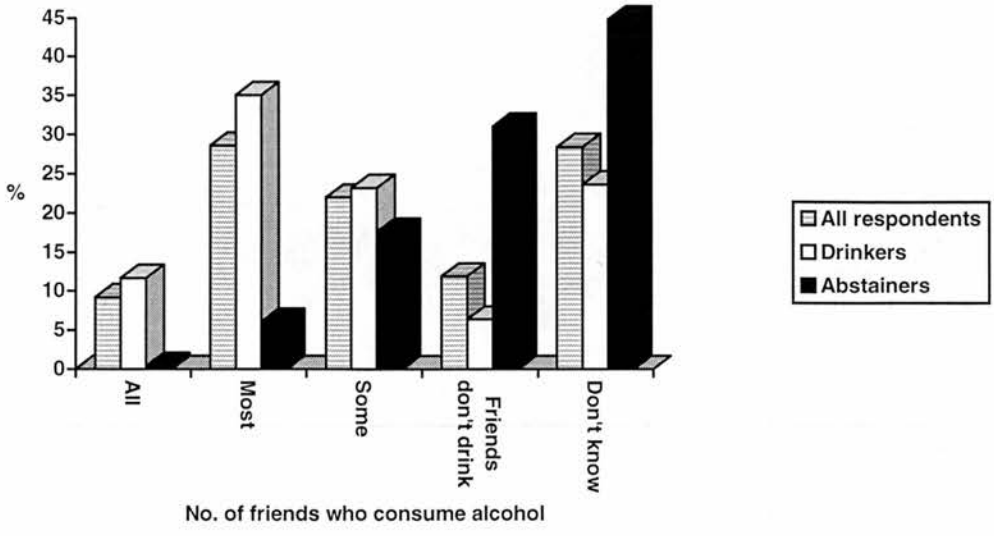
Interestingly, those respondents who smoked were more likely than non-smokers to succumb to perceived pressure to drink. Twenty-nine per cent of smokers, compared to 10% of non-smokers, reported that they 'always or often' felt that they had to consume alcohol to have a good time ($x^2=54.52$; d.f.=2; $p<0.0001$). In addition, a moderate positive association (Pearson's $r=0.32$; $p<0.0001$) was observed between the level of

drug taking (from non-takers through to the varied use group) and this measure of perceived pressure to consume alcohol.

7.3.2 Peers' drinking behaviour

To investigate this area further, a measure relating to peers' use of alcohol was included. This asked respondents to indicate how many of their friends consumed alcohol. This question was addressed to both drinkers and those who abstained from consuming alcohol. Overall, as Figure 7.VIII shows, for a significant minority of respondents (38%) it appeared that all or most of their friends also consumed alcohol. Some interesting points are noted in relation to these data. The first is that 28% of the study group did not know how many of their friends consumed alcohol, and although from Chapter 4 (Section 4.1) it can be seen that 265 respondents abstained from consuming alcohol, only 139 individuals claimed that all of their friends were also abstainers. The two categories 'mainly boys' and 'mainly girls' had been included to determine whether males or females belonged to significantly different peer drinking groups. Small numbers of respondents replied to these categories, with only six students replying that it was mainly the girls who drank (2 males and 4 females). Seventy-five respondents replied that it was mainly the boys who consumed alcohol; this figure was split fairly evenly between the genders, with 44 males and 31 females giving this answer. As these replies did not yield much information, they were amalgamated with the 'some' category, giving a revised distribution of answers as portrayed by Figure 7.VIII.

Figure 7.VIII: Details of friends' drinking habits



As can also be seen from Figure 7.VIII above, the distributions of answers provided by drinkers and abstainers differed significantly (x^2=225.80; d.f.=4; p<0.001), with more drinkers indicating that all, most or some of their friends also consumed alcohol, and the majority of abstainers reporting that their friends also abstained from alcohol, or that they were unaware of their friends' drinking habits. Although these figures lend support to the argument that any individual's drinking habits are reinforced by the behaviour of his or her peers, it can also be noted that a fairly large number of respondents (n= 331)[1]; were unaware of their friends' drinking status.

Further examination of these data in contingency tables revealed that the distribution of answers was affected by each of the main predictor values individually. Thus, as before, all the variables were entered into a log-linear regression model to determine the relative

[1] i.e. 45% of abstainers and 23.6% of drinkers.

power of prediction of each of the main demographic variables and to examine the interactions between them. The dichotomous measure of drinking status was also added, as this had been shown to significantly affect the distribution of answers in the ways discussed above.

As can be seen from the odds ratios presented in Table 7.XI (Appendix B), all the main predictor variables did have some effect on the number of friends who consumed alcohol. The relationship between drinking status and this variable can now be stated in more detail. The findings from this analysis support the initial examination of the data to show that those respondents who did consume alcohol were significantly less likely to report that only some of their friends drink (odds ratio = 0.030, or that their friends do not drink (odds ratio = 0.006), or indeed that they did not know (odds ratio = 0.012). As would have been expected, those respondents aged 14-16 were markedly less likely than their young counterparts to indicate that only some or none of their friends consume alcohol. Gender significantly affected only one of the answer categories - females were more likely than males to report that their friends did not drink.

Clear effects were observed in connection with both religious denomination and socio-economic status. The former effect showed that those attending Protestant or non-denominational schools were less likely than their Roman Catholic counterparts to report that only most, some or none of their friends drank, as compared to all of them drinking. Respondents from less affluent areas were much more likely to report that all their friends consumed alcohol. Finally, even taking into account all these effects, it was still

shown that respondents from the Northern Irish study group were more likely than their Scottish peers to claim that all their friends consumed alcohol (odds ratio = 85.2). Moreover, the interaction between country and denomination showed that there were significant differences between the denominations in Northern Ireland (with Roman Catholics being markedly more likely than Protestants to report that all their friends were drinkers[1]), that were not evident amongst the Scottish respondents.

7.4 ABSTAINERS

7.4.1 Pressure to drink

Often in surveys of alcohol use, attention is concentrated solely on those who do consume alcohol, with little attention being paid to those who abstain from doing so. To try to redress this imbalance, a few additional questions were included in the survey instrument to be answered only by abstainers. The questions asked all alluded to pressure to consume alcohol, and were as follows:

- Have you ever been tempted to try an alcoholic drink when someone offered it?
- Do your friends ever try to persuade you to have a drink?
- Do you ever feel left out (e.g. at a party) because you are not drinking alcohol?

The 265 respondents who reported that they had never consumed a proper drink of alcohol were asked to reply 'often' sometimes' or 'never' to each question. The overwhelming majority of abstainers replied negatively to each item. Only 41 individuals (15.8% of abstainers) reported that they often or sometimes felt left out, whilst even fewer (37 respondents; 14.3%) replied that their friends ever persuaded them to try

[1]Odds ratios for Protestants increased by 0.055.

alcohol. Just under one third of abstainers reported that they ever felt tempted to try alcohol. These details are elaborated in Table 7.XII below.

Table 7.XII: Pressure to consume alcohol

		Often/sometimes (%)	Never (%)
Ever felt left out?		15.8	84.2
Friends ever try to persuade you to drink?		14.3	85.7
Ever tempted to try alcohol?		31.8	68.2

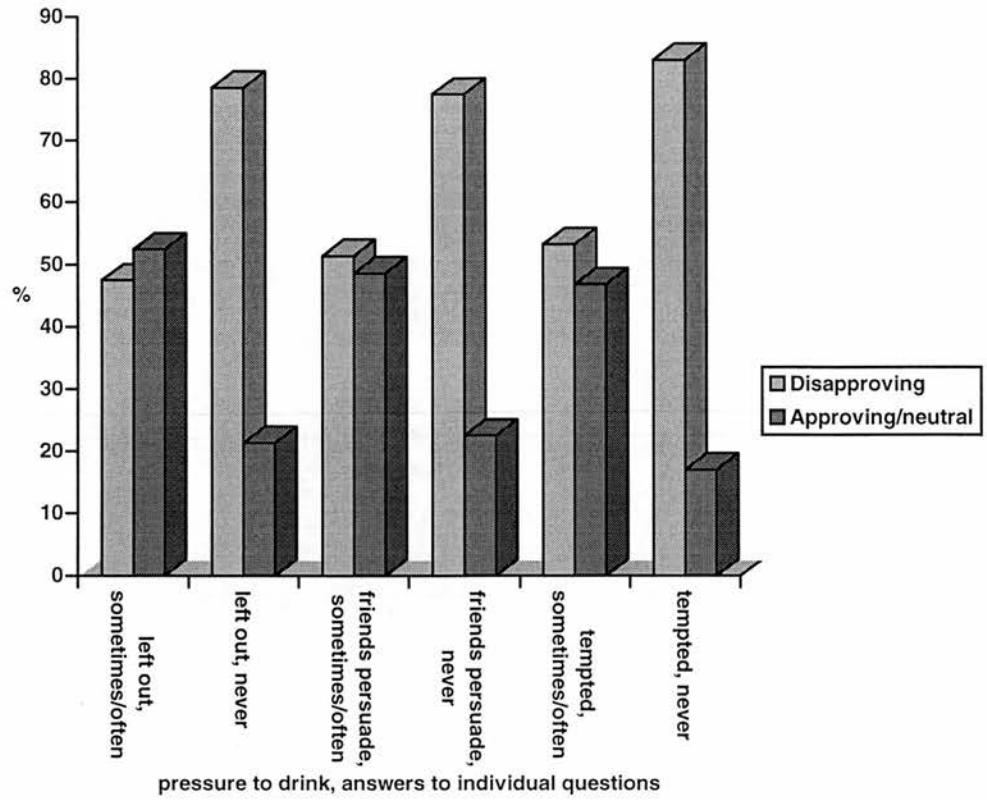
From the associations between church attendance and abstinence, it might have been expected that there would be an association between the answers to each of these questions and church attendance. However, cross tabulations of these variables showed no statistically significant differences, i.e. the pattern of answers provided by church attendees was very similar to non-attendees. Nevertheless it should not be forgotten that church attendees constituted the majority of this group of abstainers, with only 29 individuals (or 11.3% of abstainers) reporting that they did not attend church.

Nevertheless, substantial (and statistically significant) differences were observed in the comparison of answers to these questions to abstainers' attitudes towards alcohol[1]. These differences can be seen in more detail in Figure 7.VIX, but briefly, those respondents who replied 'never' to the questions were much more likely to display disapproving attitudes towards alcohol[2].

[1] Full details are provided in Chapter 6, Section 6.6.

[2] Ever felt left out: $x^2=16.844$; d.f.=1; $p<0.001$. Friends ever persuade: $x^2=11.061$; d.f.=1; $p<0.001$ Ever tempted: $x^2=24.710$; d.f=1; $p<0.001$.

Figure 7.IX: Effect of abstainers' attitudes towards alcohol on pressure to drink



Although parents' drinking behaviour (See Section 7.2.1) did not make a difference to the responses, parental attitudes towards alcohol (See Section 7.2.3) did have some effects. In general, where fathers' and particularly mothers' attitudes were strongly negative, respondents were less likely to say that they sometimes or often felt tempted to try alcohol, or felt left out.

Interestingly, the only variable examined to significantly affect the pattern of answers to all three questions was the one measuring the extent of friends' drinking[1]. These effects showed that: those who had ever felt left out (x^2=23.762; d.f.=4; p<0.001), those who had ever felt tempted to try alcohol (x^2=28.306; d.f.=4; p<0.001), and particularly those whose friends had ever tried to persuade them to drink alcohol (x^2=50.914; d.f.=4;

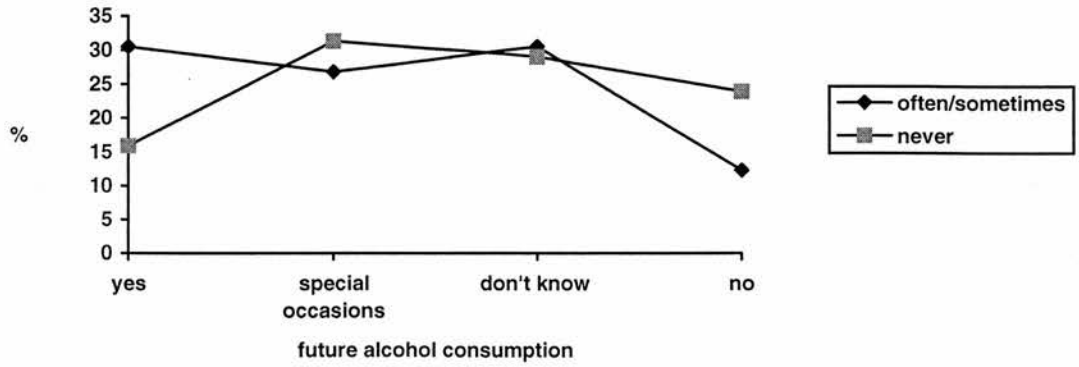
[1] Further details relating to this variable are presented in Section 7.3.

$p<0.001$) were all more likely to report that all or some of their friends consumed alcohol, and substantially fewer reported that all their friends were also abstainers.

A further question to be completed only by those respondents who did not drink asked them: 'Do you think you will consume alcohol when you are older?' Equal numbers of abstainers (19.5%) intended to drink alcohol or to remain abstinent in the future. Nearly one third said that they would only consume alcohol on special occasions and almost the same proportion said that they did not know what their future intentions were. Interestingly, this variable was significantly affected only by age, with the 14-16 year olds being markedly more likely to report that they would remain abstinent even when they grew older.

The answers to the previous three questions were also compared to the replies to this question. The only appreciable (and statistical) difference was shown between those saying that they had been tempted to try alcohol and those who had not ($x^2=9.976$; d.f.=3; $p<0.05$). The differences are illustrated graphically by Figure 7.X below. Briefly, a higher proportion of those saying that they are often or sometimes tempted to try alcohol said they thought they would consume alcohol in the future.

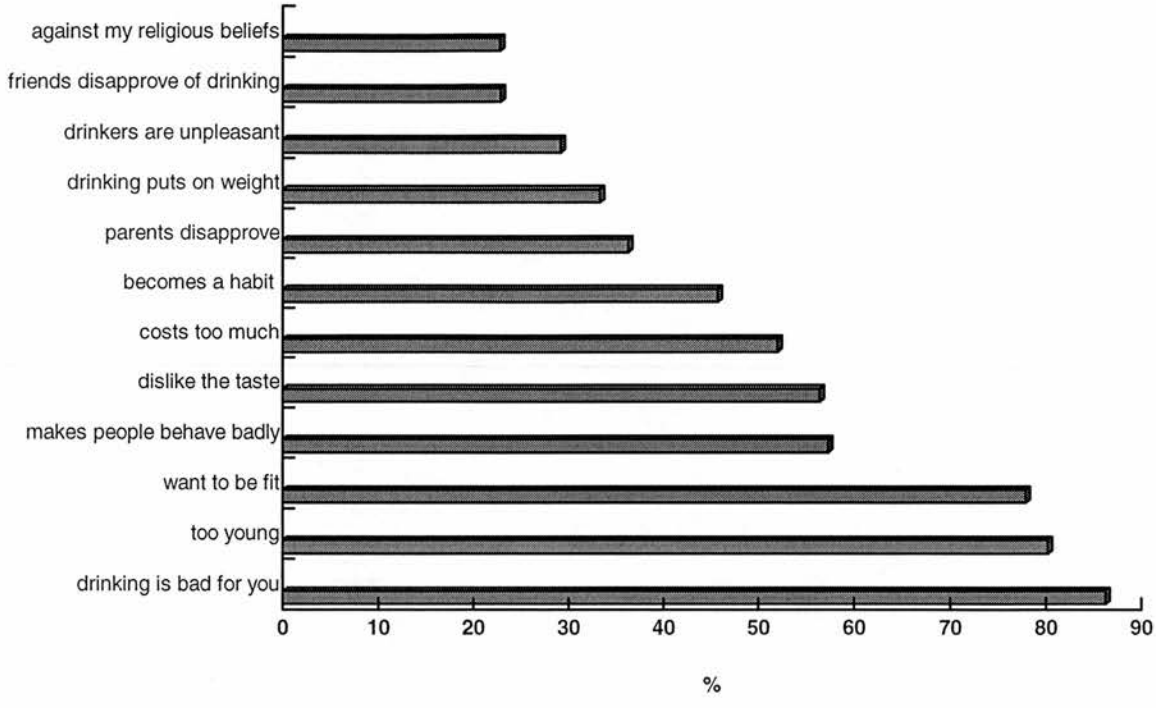
Figure 7.X: Effect of future alcohol consumption on answers to 'ever tempted to try alcohol?'



7.4.2 Reasons for abstaining

In a similar question to that completed by drinkers (See Chapter 6, Section 6.5), those respondents who had never had a whole drink of alcohol were asked to indicate whether or not a list of reasons for abstention applied to themselves. The order of popularity is displayed by Figure 7.XI.

Figure 7.XI: Reasons given for abstaining from alcohol



As can be seen from Figure 7.XI, the reasons most frequently ticked were 'Drinking is bad for you' (86.2%) ; 'I am too young' (80.2%) ; and 'I want to be fit' (77.9%). A sizeable percentage of abstainers also reported not drinking because they did not like the taste of alcohol - it would have been interesting to determine whether this is because they had tasted a sip of an alcoholic drink and disliked this or they merely anticipated that they would not like the taste.

Over half of the abstainers (57.3%) also reported that they did not drink because 'drinking makes people behave badly'. Twenty-three percent of abstainers did not drink because their friends were against drinking. Therefore, peer influences, or peer support, was again be seen to be active. Abstinence for religious reasons was the least popular of all the motives.

The clustering procedure on these reasons was replicated for non-drinking respondents in order to group their reasons for abstention[1]. Again it was found that two groups optimally divided the cases. Cluster 1 contained 132 respondents; Cluster 2, 137. Once again, cross tabulations were employed to investigate the characteristics of each group.

The most frequently cited reasons by Group 1 were 'Drinking is bad for you' (77%), 'I'm too young' (74%) and 'I want to be fit' (67%). Even though these reasons also applied to the second group (96%, 87% and 88%), the members of the latter were more extreme in their attitudes towards drinking alcohol in general. Eighty-three percent gave the reason 'People who drink behave badly', 75% 'Drinking costs too much' and 70% considered it to be habit forming. Thus it can be seen that Group 1 reported abstaining for reasons mainly pertaining to themselves and their lifestyles. For this reason they were termed 'Personal Abstainers'. Group 2, who appeared to be more negative towards drinking in general were entitled 'Against Drinking'.

Logistic regression analysis was carried out on to determine the predictors of membership of each of these clusters. In addition to the main demographic variables, the responses to the question: 'Will you drink alcohol when you get older?' were included in the analysis. The final variable added to the model was the dichotomous measure of church attendance as this had been shown to significantly affect the reasons for drinking.

Table 7.XIII (Appendix B) presents the summary of the logistic regression analysis, and shows the relative odds of belonging to Group 2, 'Against Drinking'. Although from earlier findings it was shown that there were more abstainers amongst the Northern Irish study group than amongst the Scottish group, this analysis shows that country did not

[1] See Chapter 6, Section 6.5 for a discussion of clustering the reasons for consuming alcohol.

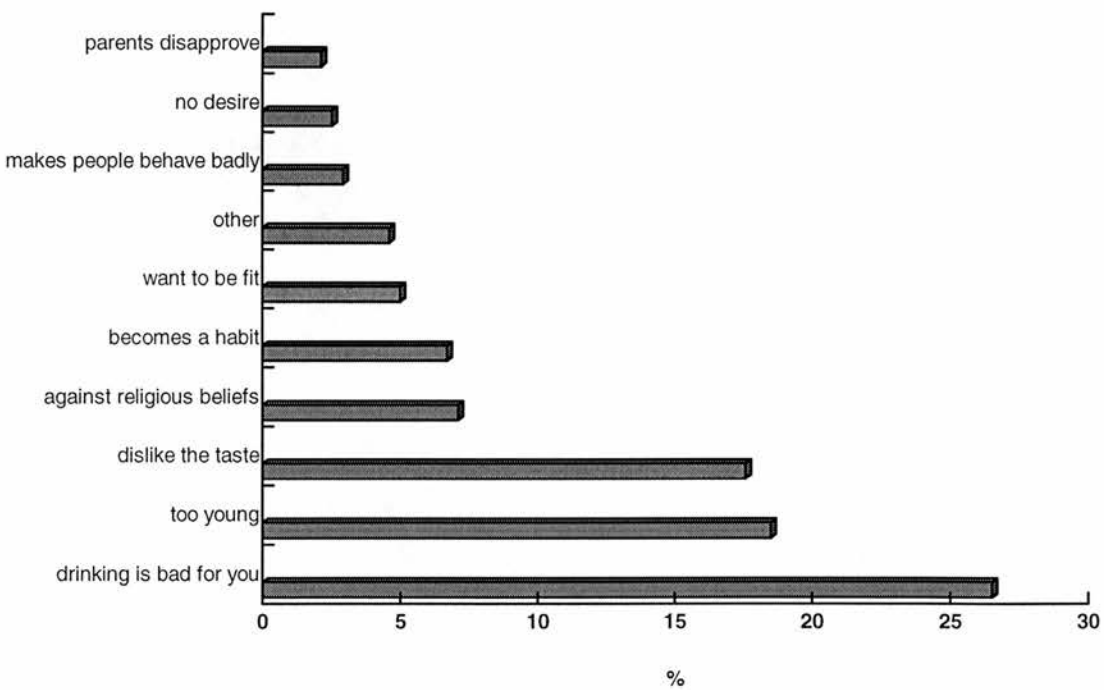
exert a significant effect on the present model. This means that, according to this categorisation, Northern Irish and Scottish abstainers did not differ in group membership. Similarly, no marked differences were found between males and females. However, age did exert a significant main effect, with the older respondents being markedly less likely to belong to 'Against Drinking' (odds ratio = 1:0.474).

Church attendance, despite being a significant predictor of abstention did not affect group membership in this context. Nevertheless, it was shown that those attending Protestant or non-denominational schools were less likely than their Roman Catholic peers to belong to the 'Against Drinking' group (odds ratio = 0.313:1). As postulated, future intentions to drink alcohol did significantly affect group membership. As can be seen in Table 7.XII, the odds of those who claimed that they would not drink alcohol when they grew older belonging to 'Against Drinking' were seven times those who would consider consuming alcohol in future years. Those pupils attending Protestant or non-denominational schools who reported that they would drink in the future, on special occasions only, were also more likely to fall into the 'Against Drinking' group (odds ratio increased by 6.172).

With reference to socio-economic status, respondents from poorer school catchment areas who indicated that they would drink in the future, were less likely than their middle class counterparts to belong to the 'Against Drinking' Group (odds ratio increased by 0.135). Additionally, working class respondents who reported either that they would drink only on special occasions in the future (odds ratio increased by 0.126), or who had not made up their minds (odds ratio increased by 0.180) were also less likely to be against drinking in general.

The importance of religious beliefs in influencing the decision on whether or not to consume alcohol was enhanced when the respondents' main reason for not drinking was considered. It can be seen that it was the fourth most popular reason. Nevertheless, it was still far outranked by a dislike for the taste of alcohol (17.9%), the belief that alcohol is detrimental to general well-being (27.2%), and the concern of respondents that they were too young to consume alcohol(18.7%). Details of the ten most popular responses to this question can be seen in Figure 7.XII.

Diagram 7.XII: Main reason given for abstaining from alcohol



The category 'other' includes those respondents who indicated that there was no particular reason why they did not consume alcohol. It is interesting to note, that although it was shown in Section 7.4.1 that parental attitudes did affect the abstainers

attitudes towards alcohol, it can be seen from Figure 7.XII above that parental disapproval was given as the main reason for not drinking by only 2% of abstainers.

7.5 Summary and Discussion

Further to the factors discussed in Chapter 6, the aim of this chapter was to investigate some additional correlates of youthful drug and alcohol use, especially family and peers.

7.5.1 Family structure

Although the majority of respondents (81.2%) reported living with both parents, a significant proportion of the study group lived in a family situation other than the traditional nuclear family. An interaction between country gender and socio-economic status was observed which indicated that in both countries respondents from less affluent backgrounds were less likely to live with both parents. However, in Northern Ireland, females were even more likely than males to live in a non-nuclear family. Respondents in the older age group and those attending Protestant or non-denominational schools were more likely than their respective counterparts not to be living with both mother and father.

In terms of family size, those respondents living in Northern Ireland, Roman Catholics and those from poorer backgrounds were all, independently, shown to come from larger families. The largest mean family size was found amongst Northern Irish Roman

Catholics living in less affluent areas, while the smallest family size was found in the group living in Scotland, in more affluent areas and attending non-denominational schools.

On investigating how family structure might be related to the respondent's use of alcohol and other drugs, an interesting finding emerged when the respondents' position within their family was examined. It was discovered that youngest children were more likely than those who headed their family or were middle or only children to drink, smoke and to have used illicit drugs. However, it should be borne in mind that these effects did not take into account all the other demographic predictors. Thus, for example, the greater number of middle children smoking may reflect the fact that a greater number of Roman Catholic respondents smoked (Chapter 5, Section 5.2), and that a greater proportion of middle children came from Roman Catholic families, in turn due to the fact that these families were likely to be larger. Nevertheless, the finding that youngest children were more likely to drink, smoke and to have used other drugs cannot be explained so conveniently. It may be that these results are reflecting the widely held belief that parents are not as strict with their second and subsequent children as they are with their firstborn.

Further effects of note emerged when these variables relating to family were entered into the logistic regression models predicting drinking smoking and drug use behaviour. It had been found (in the original model in Chapter 4, Section 4.1) that Protestants in Northern Ireland were more likely than the Roman Catholics to drink. However, this

effect was qualified by family size - Protestants who came from medium or large families were actually less likely than Roman Catholics from medium or large families to be drinkers.

Older, Scottish respondents who lived with both parents were actually more likely to be drinkers. However this was only valid for small families. Respondents who lived in medium or larger families not headed by both parents were more likely to consume alcohol. In Northern Ireland, particularly amongst older respondents, it was those who did not live with both parents who were more likely to drink. This may well explain the finding that older respondents from less affluent areas of Northern Ireland were more likely to drink, as more of this group (especially females) did not live with both parents.

Family structure did not have any effect on smoking behaviour, but family size did replace denomination as a significant predictor of smoking. It was shown that in Northern Ireland only, those respondents who came from medium or large families were more likely to smoke. Thus, the effect seen previously, that those attending Roman Catholic schools were more likely to smoke, may in fact actually be attributed to family size rather than to denomination *per se*, the relationship being as seen above, that Roman Catholic families were more likely to be larger than their Protestant or non-denominational counterparts.

Both family structure and size did influence the relative likelihood of having used illicit drugs. Respondents who did not live with both their parents and also those who came from larger families in less affluent areas were all more likely to have used illicit drugs.

In comparing these findings to those obtained from other surveys of influence of family structure on young people's substance use, it can be seen that the picture to emerge from the present study was more complicated. For example, McAteer (1991) found that amongst teenagers surveyed in West Belfast, 70.3% of those living with both parents had consumed a whole alcoholic drink, compared to 80.5% of those living with one parent. However, this analysis was not controlled for other factors, notably age of respondent, which were shown to have a bearing on family structure in the present study. Moreover, although, in their Lothian survey, Plant, Peck and Samuel (1985) demonstrated that males who had been raised by their father only were more likely to be heavy drinkers, and that both males and females who had been brought up by single parents were more likely to smoke, no effect was observed for illicit drugs. This was in direct contrast to the present study where the only clear link between single parents and increased likelihood of substance use was in relation to illicit drugs.

It is difficult to account for such differences. Nevertheless, it is clear that it is not sufficient merely to denote family structure as a dichotomous variable, consisting of traditional nuclear families versus all others. This is a sentiment which is shared by Hendry and his colleagues.

> 'It seems that the shorthand of classifying families as 'intact' or otherwise, with the implication that the 'otherwise' is in some way problematic, does very little to advance our understanding of the dynamics of family relationships. Moreover it may serve to perpetuate the stigmatisation and stereotyping of children and adolescents from single-parent or divorced families.' (Hendry et al 1993: 94)

7.5.2 Parents' drinking habits and attitudes towards alcohol

Most respondents reported that their parents consumed alcohol. Northern Irish respondents were more likely than those from Scotland to report that their parents did not drink, as were respondents from working class backgrounds and those in large families. Parents' drinking was shown to affect their offspring's drinking in a way not expected. It was found that if a respondent's parents abstained, then they were more likely to drink. However, they were also less likely to be classed as heavy drinkers.

Another point of note is that the strongest effect not to drink was seen amongst those respondents from working class backgrounds whose mothers did not consume alcohol. The analysis of mothers' drinking had also shown that those respondents from less affluent areas were more likely to report that their mothers did not drink. Hence there may have been some connection between mothers' drinking and respondents' drinking for working class respondents that was not present among those residing in more affluent areas. On the other hand, the third variable to affect parents' drinking, family size (parents of large families were less likely to drink), may indicate that a consideration in parents' decisions whether to drink could be related to other demands on their income,

with larger families posing a greater financial burden. Such reasons can only be speculated upon. Nevertheless, they could provide a partial explanation as to why the connection between parents' and offsprings' drinking was far from clear.

From the established literature on the subject (e.g. Anderson 1995), it might have been expected that if either or both parents did not drink that this would increase the likelihood that their child would also abstain from alcohol. However, as was outlined above, the picture to emerge from this study was somewhat more complicated. It is difficult to propose explanations for this. Nevertheless, one interesting finding to emerge from the models (presented in Tables 7.VI a and b) showed that country effects were virtually unaltered from the original model (presented in Table 4.XIII). The implications of this are that although the Northern Irish respondents were more likely than their Scottish peers to report that their parents abstained from drinking, this did not seem to affect the respondents' own drinking habits. Thus, it is suggested that the effects on respondents' drinking due to country were caused by some factor other than the fact that adults in Northern Ireland were also less likely to consume alcohol.

Respondents were also asked to indicate their opinions of their parents' attitudes to alcohol. The overwhelming view was negative in nature, with mothers being perceived as more disapproving than fathers. Respondents' answers to these items were subsequently divided into three groups, one which approved of controlled drinking in the home, a 'neutral' group and a 'strongly disapproving' group. Where parents were

perceived to be either neutral or disapproving of alcohol, the respondents themselves were more likely to abstain from alcohol and particularly less likely to be heavy drinkers. These effects were especially strong for mothers' attitudes. Perceived parental disapproval also modified the age influence on drinking prevalence; where fathers were thought to be disapproving, older respondents were just as likely as those aged 11-12 to abstain from alcohol. This effect was not as clear for mothers' attitudes. For females only, those in Northern Ireland whose mothers disapproved of alcohol were even more likely than their Scottish peers to abstain. Hendry at al (1993) have noted that as young women spend more of their time with the family, as a consequence parental influences on problems relating to alcohol and drugs are felt more strongly by young women than by young men. Additionally, respondent's perceptions of their parents' attitudes were shown to be closely associated with their own attitudes towards alcohol.

It is difficult to know how to interpret these findings, While on one hand, it would be tempting to conclude that young people do adopt the attitudes of their parents towards alcohol and that this in turn affects their drinking, caution must also be exercised in that these data merely reflected the young people's *perceptions* of their parents attitudes, as opinions were not gathered directly from parents. However, one could also argue, that in many cases it is the child's perception of a parent's stance on alcohol that is more likely to influence their behaviour, irrespective of their actual feelings. Support for this assertion is derived from O'Connor's (1978) study of Irish and English young people. She found that young people's perceptions of their parents' attitudes towards alcohol were a better predictor of drinking behaviours than the actual attitudes as disclosed by

the parents themselves to the author. Certainly, these findings suggest that parental attitudes towards drinking had a more clear cut effect on respondents' drinking than did parents' actual decision whether or not to consume alcohol.

An extremely interesting point to arise from the four models is that country was no longer a significant main predictor of drinking status. This can be compared to the model presented in Chapter 4 (Table 4.XIII), where it was shown that males and females from Northern Ireland were more likely to abstain from alcohol. From this, it may be concluded that parents' attitudes replaced the country effects to an extent. Thus it is possible that the higher rates of abstention amongst Northern Irish respondents is associated with the finding that more Northern Irish parents were thought to disapprove of alcohol.

7.5.3 Peers

Information was collected to supplement the reasons for drinking presented in Chapter 6. It was found that only a minority (13.3%) of respondents reported ever experiencing pressure to consume alcohol. However, those respondents who had previously given peer influenced reasons for drinking were markedly more likely to report that they sometimes or often felt pressured into drinking. Northern Irish pupils were more likely to fall into this group, as were males and older respondents. Those attending Protestant schools (especially females) were more likely to never feel pressured in consuming alcohol; whereas respondents from poorer backgrounds, particularly males were more likely to

report that they were always or often under pressure to drink. These were the demographic characteristics previously shown to be associated with heavier drinking (Chapter 4, Section 4.3.4). It was noted that heavier drinkers were more likely to perceive pressure to consume alcohol. Although specific questions relating to smoking and drug use were not included, those respondents who felt pressured to drink were also more likely to be smokers and to have tried a wider variety of illicit drugs.

Therefore, it may be concluded that this study provides a moderate degree of support for the assertion that respondents' perceptions of pressure to drink do have an effect on their patterns of consumption. However, this question did not directly refer to the source of this perceived pressure. There may be an implicit assumption that much of it derives from peers' attitudes and behaviours; nevertheless it should be borne in mind, that as already outlined in Chapter 1, young people are subject to a variety of influences from a number of sources, all of which have the potential to affect their drinking behaviour. Moreover, in her surveys of teenagers in West Belfast, McAteer (1991) discovered from qualitative evidence that very few respondents appeared to drink because of peer group pressure, but rather because of peer group support. In light of these comments, it seemed sensible to investigate the idea of peer group support further.

Thirty-eight per cent of the total study group reported that all or most of their friends consumed alcohol. Although the majority of drinkers indicated that their friends also drank and the majority of abstainers reported that their friends also abstained, a significant proportion of each group was unaware of the drinking habits of their friends.

Older respondents were more likely to indicate that their friends consumed alcohol, and females were more likely than males to report that their friends did not drink. Those attending Protestant schools were more likely to report that all of their friends consumed alcohol. Respondents from less affluent areas were markedly more likely to report that all their friends drank. Respondents from Northern Ireland were markedly more likely than their Scottish counterparts to report that all their friends consumed alcohol. This country difference was particularly noticeable amongst Roman Catholics.

The further implication of these findings is that those variables associated with predicting high peer group support for drinking were also those which were shown to predict the likelihood of heavier drinking (See Chapter 4, Section 4.3.4 for more details).

7.5.4 Abstainers

A further set of questions was included to be answered only by those who had never consumed alcohol. The man aim of these was to examine these respondents' reasons for abstaining and also, if they perceived any pressure to drink being placed upon them. Answers to a short section of attitudinal questions revealed that very few of those who did not drink reported that they ever felt left out because they were not drinking or that their friends ever persuaded them to try alcohol. Around a third of abstainers did however admit that they had been tempted to try an alcoholic drink. Those respondents who answered negatively to each of these items were more likely to display disapproving attitudes towards alcohol.

Respondents were also less likely to report feeling tempted or left out where mothers' and fathers' attitudes to alcohol were strongly negative. It was found that parental behaviour did not affect responses, but it should also be noted that three quarters of fathers and two thirds of mothers of these abstainers did themselves consume alcohol. Moreover, as was seen in Section 7.2, parental attitudes towards drinking had more of an effect on respondents' drinking behaviour than did parental behaviour.

Moreover, as for drinkers, it was shown that the influence of peers was also important for those who abstain from alcohol, with some evidence of pressure to drink being placed on those abstainers whose friends consumed alcohol. However, these findings could also be interpreted as showing some degree of peer group support was important in allowing respondents to maintain their choice not to drink (McAteer 1991).

When asked about the possibility of consuming alcohol in the future, around one fifth of abstainers said they would not, while just over one half thought they would, albeit occasionally. The final third reported that they did not know what their future drinking intentions were. This was affected only by age. Previous evidence from surveys of adolescent drinking have shown that although younger children are more likely to be anti-alcohol, this changes at around the ages of 13-14 years old (e.g. Bagnall, 1991a). However the present findings would tend to suggest that if a teenager has reached the 14-16 year old age group without drinking alcohol, s(he) was less likely to want to adopt a drinking lifestyle in the future.

The most popular reasons reported for abstaining from alcohol included a perception that drinking was detrimental to health and that the individuals were too young too drink. Health educators may be pleased to hear that at least part of their overall approach to health message is being embraced with one fifth of the total study group (219 pupils) claiming that they did not drink because they want to be fit.

Over half of the abstainers (57.3%) also reported that they did not drink because 'drinking makes people behave badly'. It would be interesting to determine if they had experienced such behaviour first hand, possibly in the context of the family. Qualitative evidence from McAteer's (1991) West Belfast study suggested that some children did not drink because they had seen their family break up due to problems connected with alcohol.

As with reasons for drinking, the respondents were clustered into two categories according to the reasons they had provided for abstaining. One group was categorised by answers that referred to mainly personal reasons for not drinking, while those respondents in the other group were more likely to be against alcohol in general. The only main variable to affect this categorisation was age, with the older respondents being more likely to abstain for personal reasons. This finding is supported by evidence from other surveys (e.g. Fossey 1994) which indicate that younger children are more likely to hold strong moralistic views concerning alcohol. Roman Catholic abstainers were more likely to be against drinking. Moreover those who stated that they would not consume

alcohol in the future were markedly more likely to hold negative attitudes towards drinking in general. Overall, respondents from less affluent areas were less likely to be against drinking in general.

Although abstinence for religious reasons was the fourth most popular reason when the main reasons for abstaining were considered, it was still outranked by a dislike for the taste of alcohol and the belief that alcohol is detrimental to health and being too young to drink. Parental disapproval was given as the main reason by only a handful of respondents. These types of reasons for abstaining were also found by McAteer in her survey of young people in West Belfast. She asked respondents to reply to an open question, stating their reasons for not consuming alcohol.

> 'Reasons for not drinking ranged from religious conviction, fear of parental recrimination and family break-up to fear of ill-health and death. Respondents' choices not to drink also included positive ones - the desire to be healthy and fit, preference for spending money on things other than alcohol, a respect for parents' wishes and a willingness to abide by the legal age limit.' (McAteer 1991: 67)

In terms of the principal focus of this study, differences between Scotland and Northern Ireland, it was interesting that responses to these questions did not significantly differ between abstainers in the two countries. Thus, it may be concluded that although there were a higher proportion of abstainers in Northern Ireland, their reasons for abstaining and their attitudes towards alcohol were shared by their Scottish counterparts who also did not consume alcohol.

Throughout the previous four chapters the effects of a myriad of demographic and social and behavioural factors on young people's alcohol and drug use have been investigated. The final, concluding, chapter will attempt to draw some overall conclusions from these data by readdressing the aims of the study.

CHAPTER 8

CONCLUSIONS AND IMPLICATIONS

The purpose of this final chapter is to revisit the aims of the project, to highlight the key findings and contributions from the thesis and to comment on their implications.

8.1 AIMS

As stated in Chapter 3, Section 3.1, the objectives of the study were as follows:

1. To examine the self-reported levels of use and misuse of alcohol, tobacco and illicit drugs amongst adolescents aged 11-12 and 14-16 in Northern Ireland and in Scotland.

2. To compare and contrast the attitudes and beliefs of respondents in these two countries relating to use and misuse of alcohol.

3. To examine also how the differences between Northern Ireland and Scotland in these behaviours, attitudes and beliefs may alter with increasing age (i.e. between the ages of 11-12 and 14-16).

4. To assess, from these comparisons, the ways in which cultural, national, family, social and religious backgrounds influence behaviours, attitudes and beliefs related to alcohol, tobacco and illicit drugs.

5. To identify priorities for future research and policies to curb harm relating to adolescent use and misuse of alcohol, tobacco and illicit drugs.

As detailed summaries have been provided at the end of each of the results chapters to deal with the first three objectives, this chapter will focus on the overall impact of the

various factors included in the investigation, i.e. Aim 4. The chapter will also discuss the limitations of the research and their implications, and will consider the implications of the study for future research and policy in the area (Aim 5).

8.2 KEY FINDINGS

Before embarking on a discussion of the key findings from this project, some general points are worth highlighting. Firstly, in line with other studies of adolescent drinking, the majority of young people in this survey did consume alcohol. Most of their consumption could be classed as light-moderate, and was in the main unproblematic. Less than one fifth of the study group were smokers. Rather more, nearly one third, had experimented with other, illicit, substances, particularly cannabis. Nevertheless, a constant minority did use alcohol and other psychoactive drugs to levels which give cause for concern. This section will attempt to unravel some of the factors associated with the different patterns of use, and in particular will focus on differences between the two countries included in the study, and how these interacted with and were influenced by the other variables included in the investigation. In order to explain these interactions, the concept of drug use 'cultures' will be explored in relation to the findings of this study.

8.2.1 Factors predicting abstention

Although previous cross-national surveys of young people's alcohol use (Craig 1989; Craig, Francis and McWhirter 1991) had found that Northern Irish teenagers were more likely than their Great British counterparts to abstain from drinking, the findings from the present study suggest that this effect is likely to be mediated by a host of other social, demographic and family-related factors.

From the review of the literature presented in Chapter 2B, it had been expected that religion (both in terms of religious affiliation and degree of religiosity) could influence likelihood to abstain amongst those respondents living in Northern Ireland. This hypothesis was supported by the results of the study. It was found that denomination had an effect only in Northern Ireland, with Roman Catholic pupils there being less likely than their Protestant counterparts to consume alcohol. Moreover, it was shown that Roman Catholics who attended church were especially likely to abstain from drinking. However, subsequent analysis incorporating size of family revealed that this was only the case for Roman Catholics who were part of a small family. Those who were part of a family comprising 3 or more children were actually more likely than pupils from Protestant households to consume alcohol.

Religiosity, as measured by church attendance, was shown to have a 'protective' effect against drinking, but again in Northern Ireland only. Pupils from the Province who

attended church were less likely than their less religious peers and all Scots to drink. As respondents from Northern Ireland were markedly more likely than those from Scotland to attend church, it was suggested that greater religiosity could well contribute to the higher rates of abstinence in that country.

Socio-economic status appeared to work in opposite directions in the two countries included in the study. Amongst older respondents in Scotland, those who lived in less affluent areas were more likely than those attending fee-paying schools (and assumed to come from more affluent backgrounds), not to drink; whereas in Northern Ireland, those living in more affluent school catchment areas were more likely to abstain. Age proved to be of importance in relation to this effect as older respondents (i.e. those in the 14-16 year old age group) living in less affluent areas of Northern Ireland constituted the group *least* likely to abstain from drinking .

In relation to age, in line with all other surveys of adolescent and teenage drinking, it was found that the younger respondents, aged 11-12, were more likely than the 14-16 year olds not to have consumed alcohol. Females were also less likely than males to be drinkers; however, it was further noted that this effect was considerably greater amongst those respondents aged 11-12 . Differences between older females and males were not nearly so marked. These effects appeared both in Scotland and in Northern Ireland.

Returning to family-related influences, although pupils from Northern Ireland were more likely to report that their parents abstained from alcohol, in general respondents in both countries were less likely to drink if their parents were drinkers. The exception to this effect was that respondents from less affluent school catchment areas who reported that their mothers did not drink, were themselves more likely to abstain.

However, perceived parental attitudes towards alcohol were shown to have more effect on the decision whether or not to drink. Those respondents who reported that their parents disapproved of alcohol in general, and the respondent drinking in particular, were more likely to abstain. Mothers' attitudes appeared to be more powerful than fathers' in this respect. The effect was strong enough to abate the age effect identified above, i.e. older respondents who reported that their parents disapproved of alcohol were just as likely as the 11-12 year olds to abstain. Furthermore, this variable was shown to have a particularly strong effect for Northern Irish females.

Some of the literature (e.g. Plant, Peck and Samuel 1985) has suggested that young people are more likely to drink if they live in a household not headed by both parents. Although some support was found for this in the present study, it was qualified by family size. Thus, respondents who were part of medium and large families, which were not headed by both parents, were less likely to abstain, i.e. more likely to drink. One other interesting fact to come to light was that those respondents who were the youngest in their family were less likely to abstain than those who were elder/older siblings.

Finally, with regard to leisure activities, it was shown that females who attended organised clubs or associations were less likely than other females to consume alcohol. However, this finding did not emerge for males. The main effect of leisure pastimes was that those respondents who were classed as 'non-joiners' were more likely than those who socialised and actively participated in all types of leisure activities to abstain.

Amongst those who did not drink, younger respondents, Roman Catholics, those from middle class backgrounds, and those who thought they would not drink in the future were all more likely to report that they abstained from alcohol for reasons in addition to purely personal reasons.

8.2.2 Predictors of heavy drinking

In contrast to the higher proportion of abstainers among the Northern Irish group, it was also found that for both males and females, Northern Irish respondents were more likely to be classed as heavy drinkers, based on their consumption of alcohol at most recent drinking occasion. Females from less affluent backgrounds in particular were more likely to be heavier drinkers. This was the case for both age groups, and was confirmed by the self-reports of the largest amount of alcohol consumed at any one occasion. Moreover, Northern Irish drinkers were more likely than their Scottish counterparts to have been drinking in the week preceding the survey, with those from more working class areas being particularly likely to have consumed alcohol on two or more days during that

week. It was also shown (by means of a drinking diary) that those who had consumed alcohol most recently were heavier drinkers.

Other contextual aspects of drinking reinforced this impression of the Northern Irish as heavier drinkers: they were more likely to have most recently been drinking on licensed premises or in outdoors locations, such as parks, wastegrounds or on streets. This effect was particularly strong for those from poorer backgrounds. Not surprisingly, therefore, they were less likely to have been drinking with their parents and more likely with friends. These factors have previously been shown to be associated with heavier alcohol consumption (Davies and Stacey 1972; Ghodsian and Power 1987). Furthermore, it was demonstrated that this pattern of drinking was likely to be established at the respondent's first drinking experience. Compared to Scottish respondents, pupils in Northern Ireland reported not having consumed their first drink until a later age, and were more likely to have been given it by friends rather than parents. Although, for both countries, it was shown that attending church moderated alcohol consumption, Northern Irish attendees still reported a higher average consumption than those pupils in Scotland who attended church.

Denomination did not have marked effect in predicting heavy drinking, but it was shown that those pupils attending Roman Catholic schools were more likely to have been drinking most recently away from their parents (again reinforced by information about first drink of alcohol). Furthermore, working class Roman Catholics were more likely to

have been drinking out of doors and to have consumed alcohol in two or more days in the previous week. However, on the other hand, middle class Protestants or those attending non-denominational schools were more likely than middle class Roman Catholics to have been drinking in the week before the survey.

In general, again in line with other studies, older respondents were more likely than the 11-12 year olds to have consumed alcohol in the week preceding the survey, and on two or more days during that week. They were more likely to have consumed greater amounts of alcohol on their most recent drinking occasion, and were especially likely to have been drinking away from home, and in the company of friends in unsupervised locations. Although females were more likely to report drinking with friends as opposed to parents, males were more likely to be heavier drinkers.

It was further shown that heavier drinkers, particularly females, were more likely to have consumed a mixture of alcoholic drinks at their last drinking occasion, and also indicated a preference for lager and stronger strength drinks. Respondents from Northern Ireland were also more likely to show a preference for beverages associated with heavier alcohol consumption.

Levels of alcohol consumption were positively associated with respondent's personal income. In particular, those pupils who had a part-time job were more likely to spend greater amounts of their income on alcohol. Respondents aged 14-16, males, those from

less affluent family backgrounds and those living in Northern Ireland were all more likely to work part-time. In general, those who worked had more money to spend on themselves. However, this was not the case for the Northern Irish respondents. Nevertheless, despite showing no higher income, they were still likely to spend more money on alcohol than were the Scottish pupils.

In terms of leisure activities, it was shown that drinkers were more likely to be active participators in general, regularly partaking in a wide range of leisure pastimes. Specifically, heavier drinkers were more likely to spend time in alcohol-related activities, such as going to the pub, and attending parties. These activities were also linked to higher personal income. For males only, following sport as a spectator was positively associated with heavier alcohol consumption. There were no differences between the countries in relation to leisure habits, other than the Northern Irish respondents were more likely than their Scottish counterparts to be classed as 'active joiners'.

Heavier drinking was also reinforced by possessing more positive attitudes towards drinking in general (supporting Ajzen and Fishbein's (1980) Theory of Reasoned Action), and by having friends who also consumed alcohol. The importance of peers was also demonstrated in the reasons provided for drinking. Those respondents who were heavier drinkers, i.e. 14-16 year olds, males, those from Northern Ireland and those from less affluent areas, were more likely to indicate that they drank for reasons associated

with peers e.g. not to feel left out, and that they sometimes or often felt that they had to drink to have a good time. However, no further information was collected in this area, and as is recognised by many researchers (e.g. Grube and Morgan 1994; Hopkins 1994), the influence of peers and friends on an individual's substance use varies according to the 'closeness' of the friend. For example, Morgan and Grube (1991) found that having several good friends who smoked was a significant factors in initiation of smoking; whereas having a best friend who smoked was critical in the maintenance of smoking behaviour. It is likely that similar dynamics influence drinking behaviour in young people.

8.2.3 Predictors of smoking

The principal correlate of smoking was shown to be drinking - only 4 individuals who smoked did not also drink. However, as the incidence of smoking was much less than drinking, it was clear that not all drinkers also smoked. Logistic regression analysis revealed that older respondents, those from predominantly working class backgrounds (particularly in Northern Ireland) and Roman Catholics were all more likely than their respective counterparts to be current smokers. However, this denominational effect was subsequently shown to be associated with family size rather than Roman Catholicism *per se*. Thus respondents from larger families were shown to be more likely to smoke, and it was in turn found that Roman Catholic respondents were markedly more likely to belong to larger families. Gender was seen to make a difference in Northern Ireland only - with

females there being more likely than males to smoke. As with drinking, youngest children were more likely to be smokers.

Drinkers who did not attend church were more likely to smoke. Church attendance again had more of an effect in Northern Ireland, with those in the Province who attended church being less likely to report smoking.

Amongst smokers, Roman Catholics, especially females, respondents living in working class areas in Northern Ireland, and those with higher weekly spending money, were all likely to be heavier smokers.

8.2.4 Predictors of illicit drug use

Respondents who abstained from alcohol were markedly less likely than drinkers to have tried any illicit substance. Northern Irish respondents, younger females, those attending Protestant or non-denominational schools (again particularly females), and pupils in more affluent areas were all more likely than their respective counterparts not to have tried any of the illicit drugs.

In contrast, drinkers were markedly more likely than those who abstained to report having tried more than one type of illicit drugs and on more than one occasion. Respondents from predominantly working class school catchment areas were also more

likely to report varied use. However, the ambivalence observed amongst the Northern Irish in relation to alcohol consumption was also noted in connection with illicit drugs: pupils from Northern Ireland were more likely than those in Scotland to be classed as varied users.

Once again, personal income was positively associated with levels of drug use. This effect indicated that adolescents with higher personal financial resources were more likely to be classed as varied users, and were also more likely to report spending more of their weekly income on these substances. Finally, respondents who lived in large families or who did not live with both parents were more likely to have used illicit drugs.

8.2.5 Drug use cultures

Pittman (1967) suggested that cultures could be classified according to their predominant attitude towards alcohol. He identified four typologies:

- abstinent
- ambivalent
- permissive
- over-permissive

An abstinent culture, where the use of alcohol is prohibited and tends to provoke very strong negative feelings, has generally been associated with Islamic, Hindu and fundamentalist Protestant traditions. In ambivalent cultures, attitudes to alcohol are

contradictory in that there are two directly opposed value systems in relation to use of alcohol, and these operate in tandem. This type of drinking culture is therefore associated with polarisation in that although it fosters abstinence, it is also more conducive to the development of heavier and potentially problematic drinking, as no norms of moderate drinking can be established (Bales 1962).

A permissive culture is one where attitudes to the use of alcohol tend to be favourable, but where there are strong and consistent social sanctions against intoxication or drunkenness or other forms of heavier drinking. In an over-permissive culture, attitudes towards drinking are favourable, but are also favourable towards other forms of 'deviant' behaviour, particularly intoxication, while drinking.

It has been suggested that both Northern Ireland and Scotland (e.g. O'Connor 1978; Davidson 1991) display ambivalent attitudes towards alcohol. Other work, particularly in the West of Scotland (e.g. Mullen 1993; Mullen, Williams and Hunt 1996) has noted that similarities between drinking patterns in Scotland and Ireland may even be expected, as there are large numbers of people of Irish descent living in Scotland. However, the evidence from this comparative study has indicated that the culture, at least among adolescents, of urban Northern Ireland is more ambivalent in its approach to alcohol than is the culture of urban Scotland. In contrast, the latter has been characterised by a permissive approach to drinking.

However, these findings are supported by existing information obtained from national studies of both adults and young people[1], which has shown that the Northern Irish adopt an extremely polarised approach to alcohol. On one hand, as compared to Great Britain, a greater proportion of the population there abstain from drinking, but on the other, those who do consume alcohol are likely to drink more heavily than their counterparts in Scotland, England and Wales. Moreover, although these studies have also shown that differences exist between Scotland, England and Wales, the most striking differences are between Northern Ireland and its 'mainland' United Kingdom counterparts.

This study has also tried to identify possible reasons for these differences. As was demonstrated in Chapter 2B, a wealth of evidence shows that in many ways Northern Ireland can be considered as separate from the rest of the United Kingdom, being characterised by distinctive and unique social, national and cultural identities. Perhaps *the* principal factor informing these differences is that of religion. In particular, religiosity and religious denomination have been shown to have a pervading effect on all aspects of life in Northern Ireland.

The effect of religiosity manifested itself in two ways in the present study. Firstly, it was shown that in Northern Ireland only, those respondents who attended church were less likely to drink or to drink less heavily. Information from this study also confirmed national data which demonstrate that people in Northern Ireland attend church more regularly than their British counterparts. Thus, it was suggested that the higher

[1] See Chapter 2A for a full discussion of these

proportion of abstainers found in the country as a whole is strongly related to this higher religiosity.

This protective effect was further shown to influence some groups more than others. In particular, females were more likely to attend church, as were Roman Catholics. Again both these findings are corroborated by national studies of adults (Bruce and Alderdice 1993; Jowell, Brook and Taylor 1991). It was also found in the present study that young people from more affluent backgrounds were more likely than their peers from predominantly working class areas to attend church. Research evidence from the adult population has supported this relationship for Northern Ireland but not for Great Britain. Nevertheless, it is important to note that the lack of a social class effect in Britain has been attributed to the fact that church attendance there is too low to construct any meaningful analysis, rather than no effect existing (Bruce and Alderdice 1993).

The significance of the relationship between social class and church attendance is pertinent to the consideration of the second aspect of religion in Northern Ireland, that of religious denomination. As was discussed in Chapter 2B, the consensus of opinion from a wide variety of research sources is that denominational affiliation has an impact on many aspects of life in Northern Ireland.

> 'Religion is the key marker, facilitating the residential, marital and educational segregation which helps reproduce the two ethnic/national communities.' (McGarry and O'Leary 1995)

Social Attitudes Survey data have revealed that Northern Irish Protestants are less likely than Roman Catholics in the Province to consume alcohol (Bruce and Alderdice 1993). Furthermore, research in the Western Isles of Scotland has also shown this denominational association (Mullen, Blaxter and Dyer 1986). Consequently, it was hypothesised that similar effects would be found in the present study.

However, in general, denomination did not have particularly strong influences on young people's drinking and drug use behaviour. Despite this, some results were presented to show that Protestants were more likely to adopt a permissive attitude towards drinking, and an abstinent position on drugs, while Roman Catholics were ambivalent towards alcohol, but permissive with respect to smoking.

Reasons for these lack of denominational differences are uncertain. One explanation is that their attractiveness to researchers as an explanatory or classification tool outweighs any practical significance.

> 'To the social scientist, the child's attendance at a particular school, pattern of friendship and leisure activities may be interpreted in terms of the sectarian division within Northern Ireland society. To the individual however, these are the taken for granted aspects of everyday life which are determined by more immediate influences such as family or friends' (Trew 1983: 119).

However, a further explanation proposed here relates to the differences in socio-economic status between the two denominations. A clue to this effect was provided by

the finding that the higher incidence of Roman Catholics smoking could be attributed more to family size than to differential beliefs of those following Roman Catholic doctrine.

Again from the Social Attitudes Survey data, Alderdice and Bruce (1993) found that while there is a relatively large proportion of wealthy Protestants as compared to Catholics in Northern Ireland, no such differences exist in Britain. Further information shows that Catholics, especially males, are likely to be under-represented in high-status occupations and over-represented in low-status occupations and among the long term unemployed (McGarry and O'Leary 1995). Therefore it is postulated that the effects associated with denomination which have been identified in other studies were partially accounted for by socio-economic status in the present study. It was demonstrated that especially in Northern Ireland, young people from less affluent backgrounds were particularly likely to be heavier drinkers, smokers and to have used a wide variety of illicit substances. Although national statistics, based on Standard Occupational Classifications, do not show much variation in socio-economic status between Scotland and Northern Ireland in relation to those in employment (Regional Trends 1996), socio-economic status is likely to be influenced by the differential in the numbers unemployed.

Thus, related to the issue of social class are deprivation based arguments, which focus on absolute levels of welfare or income. Northern Ireland has long been considered the most economically deprived region of the United Kingdom on a number of indices. Levels of

unemployment (particularly long-term unemployment[1]) are higher, and average household incomes are between £40-£50 per week lower, even though the average household size is 14% larger (Regional Trends 1996). In addition, the entitlement to free school meals (a widely accepted measure of poverty levels) is higher in Northern Ireland than elsewhere in the United Kingdom. Furthermore, the birth-rate is also higher than in Great Britain, and as a result, the population is substantially younger. Thus it could be speculated that people in the Province are more likely to drink heavily and to consume other drugs to cope with problems caused by lack of money and the stress that can cause.

However, it is still not sufficient to explain patterns of heavier use of alcohol and other drugs solely by recourse to correlates of poverty, as other evidence suggests that additional paradoxes exist within Northern Irish society. A clear example can be seen with regard to educational attainment. Harbison (1983) concluded from a series of surveys that Northern Ireland's educational achievement was higher than most of the regions in England and Wales, rivalled only by the south of England. More recent figures confirm this - Regional Trends (1996) data show that a higher proportion of Northern Irish school pupils pass two or more GCE A level subjects or their equivalent than do teenagers in Great Britain. Therefore in Northern Ireland, educational attainment does not appear to be inversely related to poverty. What makes this surprising is that areas with poor economic levels in the rest of the United Kingdom tend to produce the worst educational performance (Meighan 1986).

[1] In 1995, the rates of long-term unemployed (i.e. over 5 years) were 11.6% for Northern Ireland, as opposed to 3.2% in England, 3% in Wales and 3,6% in Scotland)

A further confusing factor is related to the violence in Northern Ireland. Several commentators have noted a connection between violence and poverty.

> 'It is no coincidence that many of the areas which have seen the worst of the violence are urban regions suffering from severe socio-economic deprivation' (Cairns 1987: 140)

Moreover, O'Malley (1983) has noted a close correlation between deprived areas and paramilitary activity. However, the Irish Republican Army in particular have been single minded in their opposition to the sale and use of illicit drugs. Such an influence would therefore run counter to the patterns of adolescent drug use observed in this study in these areas. On the other hand the violence may partially account for the apparent disregard of the non-drinking by-law in Belfast (Chapter 4, Section 4.3.2), in that police resources are likely to be otherwise preoccupied. A further implication of this is that the police are also too busy to intervene against illicit drug use.

An alternative explanation for the incidence of heavier drinking in Northern Ireland could relate to availability of the product and to pricing policy. It was shown both in the present study and that conducted some years previously by Craig (1989) that young people in Northern Ireland are more likely than their Great British peers to buy alcohol for themselves. In fact, the present study indicated that this the case was despite the Northern Irish respondents having no higher personal income. One possible explanation considered, but rejected (See Chapter 6, Section 6.7.1 for details) was that alcohol may be more expensive in Northern Ireland than elsewhere in the United Kingdom. Evidence

was presented from a licensed trade journal which indicates that the prices of alcohol by region do not vary to a great degree; rather they are more likely to differ between type of outlet. This latter aspect was not investigated in any detail in the present study, but it is known that a favoured location for drinking in urban Northern Ireland is in 'working men's' clubs (Sweeney, Gillan and Orr 1990). In addition, in the present study, it was shown that one of the favoured locations for the most recent consumption of alcohol amongst Northern Irish respondents was in the category containing clubs. The significance of such clubs as drinking locations is that they are predominantly located in working class areas, are closely associated with the community in which they are situated, and are often extremely sectarian in nature, with perhaps even some paramilitary connections. Thus, it may be that this combination of circumstances enables young people to drink in these locations because they are known by the servers and there is not too much fear of police intervention.

There is also potential for differences between the countries as far as off-licence sales of alcohol is concerned. In Northern Ireland, supermarkets cannot sell alcohol; therefore sales are restricted to separate off-sales premises. This has meant the supermarket chains there resisting the presence of national off-licence chains (such as Victoria Wines). As a result there are fewer specialist off-licenses and more alcohol is sold from pubs and clubs for consumption off the premises.

Accordingly, although this study has provided data which have enabled some elucidation of the differences in alcohol and drug use between Northern Ireland and Great Britain, it is difficult to propose any definitive explanations. All that can be said with certainty is that demography appears to inform behaviour amongst people in Northern Ireland in a way that is unique for the United Kingdom.

One extremely important point should however be raised at this stage. The results of this study have been presented in such a way that young people could appear to be passive recipients of a range of social and cultural influences, particularly those relating to religion and to their parents' attitudes to alcohol. As such the effects of 'youth culture' or youth lifestyles have not been fully considered.

The central argument here is that young people *actively* choose to identify with particular lifestyle characteristics. For example in their survey of young people's leisure and lifestyles, Hendry et al (1993) noted that young people are active agents in their own transitional process through adolescence. They contend that, as young people progress through the teenage years they become more active in their choice of leisure habits and lifestyle identifications, moving away from 'conformist' activities, such as organised youth clubs. Instead individual choice factors, such as wishing to meet like-minded people, come to dominate. These authors also note that, in addition to age, the main demographic factors influencing leisure choice are gender and social class. However,

work conducted by West and McIntyre (1990) into youth style[1] and has indicated that the influences of gender and socio-economic status are substantially reduced when the effects of youth style are considered. Moreover, they found that identification with particular youth styles can affect alcohol and drugs consumption, particularly amongst older teenagers, in that these behaviours may be part of the expression of a particular style.

Thus, rather than being influenced passively by factors such as religion, it may be the case that young people in Northern Ireland actively choose to belong to a 'conformist' or conservative lifestyle which centres around the church, or choose to adopt their parents' attitudes towards alcohol and drugs. In support of this latter point, Ochiltree (1990) has asserted that adolescents tend to take their major values in all aspects of life from parents. Therefore, it may be more appropriate to class these influences as socialisation factors. While this does not reduce their importance in the development of patterns of drinking and drug use, it does allow for young people to have an active choice in establishing their attitudes and behaviours.

[1] The authors investigated identification of young people with a range of predominating styles, such as punks, heavy metal, new romantics, trendies, casuals.

8.3 LIMITATIONS OF THE RESEARCH

In any research it is usually possible to identify limitations and areas that, with hindsight, could have been improved upon. It is unrealistic to expect any research to be without its limitations. Nevertheless, the researcher should be aware of any weaknesses in the research design and their impact on the findings, and be in a position to comment on how such limitations could have been minimised or how they might be avoided in future research. Many limitations of research result from factors outside the researcher's control and can often be attributed to time and cost restraints. Such restraints inevitably influence the research design.

Apart from general problems of reliability and validity associated with collecting empirical self-report data on alcohol and drug use amongst young people[1], there were a number of limitations specific to this particular study. The following paragraphs discuss the most salient points.

8.3.1 Measures of socio-economic status and denomination

Firstly, validity of some of the variable measures, particularly socio-economic status and religious denomination, could be queried. With regard to the former, it is recognised that the measure used, based on predominant socio-economic characteristics of the school's catchment area, could only approximate to each individual's personal social grouping.

[1]A full discussion is provided in Chapter 3, Section 3.5.

The potential disadvantages of this measure were further exacerbated by the fact that it was not directly comparable between the two countries included in the study. As was explained in Chapter 3, Northern Ireland's secondary education system is divided into grammar and high schools, whereas Scotland operates a comprehensive model of secondary education in which schools are distinguished by funding type (privately, i.e. fee-paying, versus education authority funded). In consequence, the Northern Irish groups were also segregated in terms of academic ability. However, other studies (e.g. Fee 1983; Meighan 1986), have noted a consistent link between higher socio-economic status and academic performance.

> '...it is well known that social class factors are important in determining whether a child receives a grammar school education or not, both in assisting him to achieve better scores on selection tests and to a greater freedom of parental choice of school' (Fee 1983: 53)

Other studies have employed parents' occupational status as their measure of social class. It was intended, in the present study, to include a question on father's occupational status. Unfortunately, because of opposition from some of the participating schools, this was removed. However, parental socio-economic characteristics have also come under some criticism. It has been argued (e.g. by West et al 1990 and Hendry et al 1993) that an analysis based solely on measures of social class of origin or upbringing fails to recognise the diversity of attitudes, behaviours, activities, employment, education and training that exist among young people.

Validity may have been increased by adopting a composite measure of social group, an example of which was exemplified by the research undertaken by Currie, Todd and Wijckmans (1993). Their study obtained information on father's occupational status, indicators of family affluence or deprivation and on the respondents' level of personal wealth. This latter measure - of the current socio-economic circumstances of the young people themselves - was included in the present study and was shown to have a significant effect on levels of alcohol, tobacco and illicit drug use.

Despite the reservations outlined above, comparisons with other studies revealed fairly similar effects due to social grouping. Therefore, although not ideal, socio-economic status of school catchment areas as a measure of respondents' socio-economic status was deemed adequate for the study. Nevertheless, it could have been refined, perhaps by asking the respondents to state their postcode. This measure has been used with some degree of success other studies (e.g. Smart, Adlaf and Walsh 1994).

With regard to denomination, while as has been emphasised in previous parts of this thesis, that education in Northern Ireland is almost completely segregated along denominational lines, in Scotland a best approximation was obtained by comparing Roman Catholic schools with non-denominational schools. This latter category could have easily contained respondents who were Roman Catholic, as not all pupils who are affiliated to the Catholic church in Scotland are educated in denominationally-affiliated schools. Furthermore, the non-denominational schools[1] surveyed in Scotland did

[1] As, to a much lesser extent, did the Roman Catholic schools.

contain a few pupils who followed Muslim or other faiths. The significance of this is that pupils from these faiths may proscribe alcohol and drug use on religious grounds. Kohli's (1989) research among school pupils from varying ethnic origins living in Glasgow found that few Muslim children consumed alcohol and no Sikhs smoked cigarettes.

A further complicating factor in using this construct of religious affiliation is that in Northern Ireland, a substantial proportion (41%) of Roman Catholic schools are single-sexed, whereas most of the Protestants schools are mixed. As Fee (1983: 44) has noted: 'this makes it difficult to decide whether differences in the research data may be attributable to differences in religious background or to differences in school organisation.' However, it is considered that potential 'contamination' was minimised in the present exercise by also including co-educational Roman Catholic schools in the study group.

8.3.2 Measure of age

As was discussed in detail in Chapter 3 (Section 3.2.4), due to different educational systems in Northern Ireland and Scotland, there was potential for discrepancies between the age groups in each of the counties, and for these differences to affect patterns of alcohol and drug use[1]. It was shown that, in first year of secondary education, the mean age of Northern Irish pupils is lower than for first year in Scotland. On the other hand, the mean age for the older age group included in the study could have actually been

[1] West (1993) has commented on the ways in which comparisons of smoking behaviour amongst young people in Scotland, England and Wales are affected by discrepancies in the respective educational systems.

younger in Scotland than in Northern Ireland as the former country only has four years of statutory secondary education as compared to five in Northern Ireland.. Therefore the effects of country on drinking, specifically Northern Irish respondents being more likely to abstain, but also more likely to drink more heavily, could have been partially influenced by age variations within the two age groups studied.

The two age groups were examined and no significant differences found between countries as regards the individual ages (in years) making up these groups. However, as respondents were only asked to state their age in years, the subtle distinctions outlined above would not have been detected. One possible way round this would be to ask respondents to state their age in more detail, i.e. in years and months. However, this then becomes more complex to analyse.

8.3.3 Lack of representativeness of the study group

A third area which might be viewed as a limitation is that the study group was not representative of general population of school pupils in the two countries studied. Due to restraints on time and money, selection of respondents was restricted to Lothian and Strathclyde regions in Scotland, and to Belfast and surrounding areas in Northern Ireland. As was noted in Chapter 3, these are all urban locales. As a result, patterns of drinking and other drug use could well be different in more rural areas of each country.

For example, Anderson and Plant (1996) in their account of a recent investigation into alcohol and drug use among 14-16 year olds in the Western Isles of Scotland, reported an

extremely polarised pattern of alcohol use, more in line with that observed in the present study in Northern Ireland. Interestingly, although differences have been found between Belfast and other parts of Ulster (Blaney and MacKenzie 1980; Harbison and Haire 1982), even Belfast has been described as a collection of villages rather than a city (Cairns 1987).

However, it is also recognised that differences may exist between regions of the same country that cannot be explained solely by the urban/rural dichotomy. In Scotland, for example, Currie and Todd (1992) found that prevalence of smoking and drinking were highest amongst school pupils in Grampian, but lower in the Borders region. Although Lothian and Strathclyde were fairly similar in terms of numbers of pupils smoking and drinking, incidences of drunkenness were notably higher in Lothian. The authors considered that these differences could not easily be explained, as when social class factors and urban/rural considerations were taken into account, large regional differences remained.

Moreover, although equal numbers of pupils attending Roman Catholic and Protestant or non-denominational schools were surveyed, this is not representative of the distribution of the school populations in either country. In Northern Ireland, just over 35% of secondary school pupils are enrolled in schools affiliated to the Catholic church (Department of Education for Northern Ireland, personal communication); the comparable figure for Scotland is only 14% (Scottish Office Education Department,

personal communication). Therefore, the Roman Catholic denomination was over-sampled, particularly in Scotland. Similar anomalies existed for the socio-economic divisions: where pupils attending grammar schools in Northern Ireland and privately funded schools in Scotland were over-sampled, at the expense of high and education authority funded schools respectively. Moreover, as was also seen in Chapter 3, a greater proportion of pupils in Northern Ireland are educated in grammar schools than are educated in Scotland in private schools. These biases do not affect the comparative results presented, but they do place some limitations on the generalisability of the study findings.

8.3.4 Definitions of substance use

A third perceived weakness of the study is connected to the definitions of drinking, smoking and illicit drug use. The definition of drinkers adopted was all those who had ever consumed alcohol, even only once. As was seen in Chapter 4, Section 4.2.3, 130 respondents reported not having consumed another drink after their first. Therefore, a strong argument could be forwarded for classifying these pupils as non-drinkers (Gutierres, Molof and Ungerleider 1994), or even for analysing them separately. However, to obtain sufficient responses for the multivariate analyses procedures, it was decided to class these respondents as drinkers.

Furthermore, no common accepted definition of 'heavy' drinking among young people has been established. Each study has adopted its own levels, with the national studies (e.g. Marsh, Dobbs and White 1986; Goddard 1996) using recommended weekly guidelines for adults as their benchmark. This measure was not appropriate for the present study which employed the respondent's consumption of alcohol on their most recent drinking occasion as the basis for classification. While it is recognised that classifying a person on the basis of one drinking occasion may risk distortion if that occasion happens to be atypical, it did carry the advantage of including a larger number of respondents than if only those who had consumed alcohol in the week preceding the survey had been examined (compare to Marsh, Dobbs and White 1986; Craig 1989). Surveys by Plant and colleagues (e.g. Plant, Peck and Samuel 1985; Plant et al 1990; Plant and Foster 1991), have consistently focused on most recent drinking occasion for this reason. As a result, the criteria to measure heavy drinking applied in this project[1] were those adopted by these latter studies. Despite this justification, it is accepted that these definitions of 'heavy' drinking were somewhat arbitrary.

A related limitation of the data was the lack of comparability between information collected on drinking, smoking and use of illicit drugs, because the questions were not standardised. This omission occurred partly because the survey was originally intended to focus only on alcohol, and also because some schools objected to some of the more detailed questions on illicit drugs. Thus, it would have greatly benefited the study to have obtained information on age of first use of illicit drugs, and also more details of

[1] 8 or more units on most recent drinking occasion for females and 11 or more units for males.

whether they were used in addition to alcohol, or as is speculated in some cases (e.g. Coggans and McKellar 1995), as a replacement for it. It would have also been of interest to have been able to examine young people's attitudes to and reasons for smoking and drug use and to have compared these with those relating to alcohol. Nevertheless, it was considered that the information collected was of value in exploring further the association between youthful drinking and use of other psychoactive substances.

8.3.5 Individual questionnaire items

Further limitations of the study are related to individual items in the questionnaire. Firstly, in collecting information on contextual factors of drinking, no question was included on how the respondents obtained their alcohol. In light of the complex patterns of expenditure observed in Chapter 6, it would have been interesting to explore this area further.

Secondly, although there were benefits perceived in allowing the respondents to report their alcohol consumption in an open format (see Chapter 4, Sections 4.3.4 and 4.3.5), in some cases this was very difficult to code. For example, if a pupil reported that they had shared a bottle of cider with friends, it was impossible to determine how many the bottle was shared between, the size of container and alcoholic content of the beverage. In relation to this, it is noted that information relating to the types of beverage consumed is likely to become outdated more quickly than other information on drinking habits. Since

these data were collected, there has been an influx of alcoholic soft drinks or 'alcopops' onto the market. It has been alleged that these are being targeted specifically at younger drinkers.

Limitations should also be noted in connection with some of the correlates of youthful substance use. For example, information about leisure activities was limited to the closed categories presented. Some fundamental pastimes, such as watching television, were omitted. Furthermore, as Hendry et al have noted, activities are only part of what leisure means to an adolescent or teenager.

> 'Much adolescent leisure is about 'not doing', about 'hanging about', about 'talking to friends', about 'being alone to think', and this is a harder dimension to explore.' (1993: 2-3)

It might also be argued that using church attendance as a measure of religiosity is inadequate as attending a religious service merely demonstrates public practice and provides no idea of level of implicit belief. However, Francis and Brown (1991) have argued that research concerned with the application of social modelling theory to religious issues suggests that regular church attendance has the strongest influence on promoting socialisation into the religious and ethical norms of those who believe. However, Francis and Mullen (1993) contend that, ideally, religiosity requires to be operationalised along both explicit and implicit dimensions. For example in their survey of 13-15 year old school pupils, they found that church attendance was the strongest

predictor of attitudes towards alcohol, but that in respect of attitudes towards heroin, both denominational affiliation and belief in God emerged as more powerful predictors.

8.3.6 Statistical analyses

All these limitations and weaknesses identified were inter-linked with, and in some cases exacerbated, limitations in the techniques of statistical analyses employed. The most important point in relation to these concerns the overall study design, which was of a cross-sectional, correlational nature. A temptation with such designs is to assume causality, i.e. influences exerted by the independent variables on the dependent variable(s). However, it is extremely important to emphasise, as has been done at certain points throughout the thesis, that such causality cannot be implied; rather all that is being shown is a relationship or association between the variables, and that any direction is only as a result of the way in which the study (and individual models) has been constructed.

Agresti (1990) has highlighted some of the specific problems of logistic and log-linear models applied to real data. These problems include:

- sensitivity of the significance tests to sample size;
- the presence of cells with very small or zero frequencies; and
- the effect of a clustered sample design on inferences.

A particular difficulty arises in trying to balance the first two of these limitations. Operationally, Hair et al (1995) suggest that the ratio of responses to independent (or explanatory) variables should be 50 to 1 for stepwise procedures. If this is satisfied, then the results should be generalisable. Thus, care was taken to achieve this criterion for the majority of models constructed in this project. On the other hand, these authors also warn that sample sizes of 1 000 or more responses make the statistical significance tests overly sensitive. Moreover, Payne, Payne and Heath (1993) note that, provided cell sizes are adequate, models can be readily fitted to tables with many dimensions, but that it can be very difficult to interpret the higher order interactions between variables. For both these reasons, it was important to ensure that the criteria of practical significance (i.e. whether the results are useful) were met along with statistical significance.

Moreover in order to limit the number of response categories, all the explanatory variables were restricted to dichotomous measures. While this was completely appropriate for some, e.g. gender, others, particularly age may have obscured some potentially valuable effects. Consequently, in recoding the ages of respondents into two groups, younger (those aged 11 and 12) and older (those aged 14, 15 and 16), variations within these groups could not be accounted for. Notably, other surveys (e.g. Plant et al 1990 and Plant and Foster 1991) have demonstrated that incidence, frequency and levels of youthful drinking increase markedly between the ages of 14 and 16 years old.

In relation to the third limitation of logistic and log-linear modelling, it is noted that measures in this project may not have been independent as they were gathered in group settings. They were also clustered by employing the school class as a sampling unit. As independence of observations or responses is also a necessary condition for the ANOVA procedure, a further development in the method of statistical analyses would thus be multi-level modelling. However, this would have required a larger sample and a greater number of sampling units than were used in the present study.

Finally, in relation to statistics, it is important to note that the results for each model were limited by the data or variables included. It should be noted that the coefficients can be interpreted only in the context of the other variables in the model. Thus, for independence techniques (logistic and log-linear regression, ANOVA) it was important to ensure that the selection of independent variables was based on their theoretical relationships with the dependent variable. Moreover, for cluster analysis, it is also relevant to note that the derived clusters can only reflect the inherent structure of the data as defined by the variables. As a result, where pertinent variables were omitted, these could well have influenced the resultant classifications.

However, given the ambitious nature of the study design, it was felt that multivariate techniques, although not always the most straightforward to interpret, were valuable in analysing the data. Other methods of analysis, for example, presenting the multiway

contingency tables for each measurement would have consumed too much space and would have made tiresome reading.

There are a multitude of other details which would have ideally improved the study. These range from revisiting the schools to follow-up those that were not present for the data collection session, to extending the scope of the project to include the other countries of the United Kingdom. However, as already stated, the study design and methodology were limited by time and cost restraints.

Despite these weaknesses and problems, it is important to emphasise that none of the limitations was considered serious enough to undermine the study or to jeopardise its major aims. One such aim was to identify priorities for future research and policies to curb harm related to adolescent use and misuse of alcohol, tobacco and illicit drugs. In order to achieve this, the final section in this concluding chapter will focus on the implications of the results of this study.

8.4 IMPLICATIONS OF THE RESEARCH FINDINGS

A key implication of the findings from this project is that parents and family structure do play an important role in the formation of a young person's drinking habits. It was shown that perceived parental disapproval of alcohol was associated with greater likelihood of abstinence, even in older teenagers. This proved to be a more important predictor of

drinking status than parents' own drinking habits. In connection with this, Lowe and Foxcroft (1993) have suggested that moderate support and control, together with sensible parental drinking and a moderating attitude towards their offsprings' drinking, appear to be optimal for the development of sensible adolescent drinking. As such, the argument propounded by May (1993c) and Fossey (1994) that initiatives to curb youthful drug misuse should involve the input of parents, is supported on this occasion also.

Nevertheless, it is recognised that parental support and control may well be influenced by family structure. In the present study it was shown that children brought up by one parent alone were not necessarily more likely to drink or smoke but that they were more at risk of taking other drugs. However, respondents who were part of larger families which were not headed by both parents were more likely to drink and to smoke. It is important to note that these effect emerged independently of social class. Moreover, youngest children, irrespective of their age were more likely to drink, smoke and have at least tried other drugs.

A further implication of these results is related to leisure habits. It has been shown that directing young people towards organised leisure activities may not prevent them from drinking and using other drugs. On the contrary, the sociable nature of most adolescent substance use means that those who drink, smoke and use other drugs are more likely to be active across a whole range of leisure activities. In fact, it has been suggested (e.g. by

Foxcroft and Lowe 1991) that among young people, it is those who do not drink who can be considered in some way deviant.

It was also found that young people with higher disposable income were more likely to spend their money buying alcohol, cigarettes and other drugs, and to be heavier consumers of these substances. The implication of this is that price rises in alcohol may not have much of an impact on consumption habits of young people, especially those with relatively high discretionary income. Moreover, the higher rates of drug use found in this study, compared to studies of school-based populations in the late 1980s, suggests that the use of illicit substances is increasing. Evidence was forwarded to support the fact that young people may switch to illicit substances as they often cost less than alcohol (Fast Forward 1994), and the illegal market is obviously outside the control of any official price intervention.

A more effective strategy may therefore be to focus on those who sell the legal drugs to young people under the statutory minimum purchasing age. Lister Sharp (1994) admitted that this a difficult area to tackle, as both the adult appearance of many teenagers and the complicated nature of the legislation make the licensing laws difficult to enforce. A practical response to this would be to focus on the problems licensees face. To address these concerns, a research study is planned for 1997 which will evaluate the impact of licensee training in Scotland and England, in conjunction with police enforcement of the legislation.

One of the principal responses to widespread concern about youthful drug and alcohol use has been the endorsement of formalised drug education for young people. The motives for targeting this group of individuals are two-fold: in the first instance, there is the assumption that young people constitute a more vulnerable group in relation to drug problems; and secondly there is the common belief, or at least the hope, that such prevention strategies will equip them with necessary skills to cope in later life (Bagnall 1991a; Fossey 1994).

The theoretical and practical constructs underpinning these programmes vary:

> 'Traditionally, problems related to legal drugs have been approached in far less sweeping or draconian ways than those associated with illicit or socially disapproved drugs. The latter have been regarded as targets for total elimination, rather than as being suitable for 'controlled' or 'moderate' use.' (Plant and Plant 1992: 123)

However, information from this study has shown no evidence that increased experience of education is associated with lighter drinking or reduced propensity to smoke or use illicit drugs. This finding is supported by the findings from review evidence which tends to confirm the general failure of health education to influence youthful drug use, at least in the short term. (Bagnall 1991a; Fossey 1994; Anderson 1995). However, it should be noted that this is not an argument for the case that alcohol and drugs education should be abolished because it does not work; rather to highlight the case that other factors do

impinge upon its effectiveness and that, where possible, any education initiative should take these into account.

Moreover, legal considerations apart, it is by no means certain that that the majority of young people require to be educated or monitored in their use of alcohol and other drugs. As has been emphasised by this and other studies, most young people who consume alcohol do so in moderation and generally experience few negative consequences thereby. As several researchers (e.g. Foxcroft and Lowe 1991; May 1993c) have noted, drinking amongst this age group is on the most part normative behaviour. Furthermore, even those who report negative consequences are also more likely to report positive experiences. Additionally, this study has also provided evidence to show that youthful drug users are not necessarily embarking on a destructive lifestyle; that, in the main, they do not use drugs to reject conventionality as Jessor and Jessor's (1977) problem behaviour theory proposed. By contrast in the present study, those young people who drank and had used other illicit drugs were more likely than those who abstained to wish to continue their education to tertiary level. The fact that they were less likely to wish to do this at school may merely reflect the fact that they perceived themselves to be more mature or independent than their abstinent peers.

However, the over-riding implication of this study relates to the need to take cultural considerations into account in any responses to youthful use and misuse of alcohol, tobacco and other psychoactive substances. Specifically, it is argued that in order for any

education or control initiatives to be effective, they must be tailored to the culture in which they are being implemented. In practical terms, this may mean a reduction in the number of large-scale country wide control policies or educational programmes, and an associated introduction of local, or community-based approaches.

A final area for further research is thus to investigate these cultural influences further, both within the countries of the United Kingdom and more widely. To this end, another recent study, the first to cover the entire United Kingdom, has been initiated by the Pompidiou Group to investigate the drinking behaviours of 15 and 16 year olds in 26 European countries. The findings from the study reported in this thesis, together with the limitations in its design and methodology have been drawn upon to inform this project. A particular strength of the European project has been to include techniques of multi-level modelling in the analyses of the data. The preliminary results (reported by Miller and Plant 1996) from the United Kingdom exercise (involving 7722 school pupils) indicate that the differences found in the current study are replicated on a national scale, albeit in a somewhat moderated form.

A final comment to conclude this study is an echo of the sentiment expressed by Plant, Peck and Samuel. It may not be incisive in research terms, but it is nonetheless true.

> 'Drinking, smoking and illicit drug use are all complex forms of behaviour and the information collected in this study serves to re-emphasise, rather than to explain, this complexity.' (Plant, Peck and Samuel 1985: 120)

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APPENDIX A

THE SELF COMPLETED QUESTIONNAIRE

STRICTLY CONFIDENTIAL

SURVEY OF YOUNG PEOPLE & ALCOHOL

(Northern Irish Study - Autumn 1992-Spring 1993)

	Col 1-4
Respondent code [ ]	[ ] [ ] [ ]
	Col 5
Country code	[ ]
	Col 6-7
School code	[ ] [ ]
	Col 8
Phase No.	[1]

Alcohol Research Group
University of Edinburgh
Morningside Park
Edinburgh EH10 5HF.

Introduction

This questionnaire has been designed to find out what young people like yourself know and think about alcohol, tobacco and drugs. Information is being collected by a survey of young people in Scotland and Northern Ireland.

"Alcohol" includes drinks such as beer, lager, wine, cider, Martini, sherry, gin, vodka, whisky, and Bacardi.

This survey is STRICTLY CONFIDENTIAL AND ANONYMOUS. None of your class-mates or your teachers will see what you have written. Not even the identities of participating schools will ever be revealed.

Please try to work through the questions on your own. This is not a test or examination - so just answer as fully as you can. There are no right or wrong answers to the questions.

Participation in this survey is voluntary and quite painless.

Your help is much appreciated.

FOR OFFICE USE ONLY

Col. 9

Q1 How old are you? (Tick one box)

11	1
12	2
15	3
16	4
Other (write in)	5
_____	9 m

Col. 10

Q2 Please indicate whether you are male or female (Tick one box)

Male	1
Female	2
	9 m

Col. 11

Q3 With whom do you live? (Tick one box)

Mother and Father	1
Mother only	2
Father only	3
Mother & stepfather	4
Father & stepmother	5
Other (write in)	6
_____	9 m

Col. 12

Q4 How many brothers and sisters do you have?

(Write in) _____

1
2
3
4
5
6
7
9 m

Col. 13

Q5 How many of them are older than you?

(Write in) _____

1
2
3
4
5
6
9 m

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Col. 14

1
2
9 m

Q6 Have you ever had a proper alcoholic drink, a whole drink, not just a sip? (Tick one box).

Yes ☐
No ☐

IF YOU HAVE NEVER HAD A WHOLE DRINK OF ALCOHOL MOVE TO QUESTION 21. IF YOU HAVE HAD A PROPER ALCOHOLIC DRINK PLEASE CARRY ON WITH QUESTIONS 7 TO 20.

Col. 15-16

06
07
08
09
10
11
12
13
14
15
16
88 n/a
99 m

Q7 How old were you when you had your FIRST whole drink of alcohol?

(Write in) _____ years old

_____ I can't remember

Col. 17-18

01
02
03
04
05
06
07
08
88 n/a
99 m

Q8 Who gave you this drink of alcohol? (Tick one box)

Parent/step parent/guardian ☐
Brother or sister ☐
Other relative ☐
Male Friend (older) ☐
Female Friend (older) ☐
Male Friend (same age or younger) ☐
Female Friend (same age or younger) ☐
Other (write in) ☐

_____

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Col. 19

Q9 How long after this was it until your next drink?

(Write in) _____

_____ I have not had another drink.

1
2
3
4
5
6
7
8 n/a
9 m

Col. 20

Q10 When did you last have an alcoholic drink? (Tick one box)

Within last week
1-2 weeks ago
3-4 weeks ago
Over 4 weeks - 3 months ago
Over 3 months ago

1
2
3
4
5
8 n/a
9 m

Col. 21-22

Q11 Whom were you with when you last had some alcohol to drink? (Tick one box)

Girlfriend or boyfriend
Friends of the same sex as me
Friends of the opposite sex
A group of friends of both sexes
Parents or step parents
Brother or sister
A group of relatives
On my own
Other (write in)

_____

01
02
03
04
05
06
07
08
09
88 n/a
99 m

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Col. 23

1
2
3
4
8 n/a
9 m

Q12 If in question 11 you ticked that you had a drink with friends please indicate the age of the group. Were they mostly? (Tick one box)

- Younger than you ☐
- Older than you ☐
- Same age as you ☐
- Mixed ages ☐

Q13 Where were you when you last had some alcohol? (Tick one box)

Col. 24-25

01
02
03
04
05
06
07
08
09
10
88 n/a
99 m

- At home, with parents ☐
- At home, when parents were out ☐
- Home of other relatives ☐
- At a friend's house ☐
- In a pub/bar ☐
- At a club or disco ☐
- At a rave or acid house party ☐
- At a special occasion, e.g. wedding ☐
- In a park/wasteland/street ☐
- Other (write in) ☐

_____

Q14 How much did you drink on your last drinking occasion? (Fill in your answer like the examples below)

Col.

26-27:[ ] [ ]

28: 1 2 8 9
29: 1 2 8 9
30: 1 2 8 9
31: 1 2 8 9
32: 1 2 8 9
33: 1 2 8 9
34: 1 2 8 9

Examples 1. *I had 2 pints of lager & 1 bottle of Diamond White & 1 vodka & lemonade.*

2. *I had 1 bottle of wine & 2 cans of Carlsberg beer which I shared with friends.*

Your answer _____

_____

_____

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Q15 What is the most alcohol you have ever drunk on <u>one single occasion</u>?

Col. 35-36

(Write in) _____

[ ] [ ]

_____

Q16 How often have you drunk this amount of alcohol? (Tick one box)

Col. 37

Once only	☐	1
2-5 times	☐	2
6-10 times	☐	3
more than 10 times	☐	4
		5
		8 n/a
		9 m

Q17 Please complete this question if you have had any alcohol in the last 7 days.

For each day please say how much you had to drink, what type of alcohol you drank and when you drank it - See the example below.

Example: Tuesday: I had 2 halves of McEwans beer in the evening.

Now fill in your own answer. If on any day you had no alcoholic drinks, just write in 'none'. *(Hint: it may help to think who you were with and what you were doing on each day).*

MONDAY _____

_____

TUESDAY _____

_____

WEDNESDAY _____

_____

THURSDAY _____

_____

FRIDAY _____

_____

SATURDAY _____

_____

SUNDAY _____

_____

FOR OFFICE USE ONLY

Col 38 : [ ]

Col 39 : [ ]

Col 40 : [ ]

Col 41 : [ ]

Col 42 : [ ]

Col 43 : [ ]

Col 44 : [ ]

Col 46	Col 47	Col 48	Col 49	Col 50	Col 51	Col 52	Col 53	Col 54
1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2
Col 56	Col 57	Col 58	Col 59	Col 60	Col 61	Col 62	Col 63	Col 64
1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2
Col 66	Col 67	Col 68	Col 69	Col 70	Col 71	Col 72	Col 73	Col 74
1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2
Col 76	Col 77	Col 78	Col 79	Col 80	Col 81	Col 82	Col 83	Col 84
1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2
Col 86	Col 87	Col 88	Col 89	Col 90	Col 91	Col 92	Col 93	
1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	

FOR OFFICE USE ONLY

Col.

Q18 After drinking have you ever:
(Tick one box for each question)

	Always	Often	Sometimes	Never	
a) Been sick					94: 1 2 3 4 8 9
b) Felt dizzy or faint					95: 1 2 3 4 8 9
c) Felt really happy					96: 1 2 3 4 8 9
d) Had a headache					97: 1 2 3 4 8 9
e) Fallen over					98: 1 2 3 4 8 9
f) Felt too ill the next morning to go to school					99: 1 2 3 4 8 9
g) Been unable to remember part of the time when you were drinking					100: 1 2 3 4 8 9
h) Been in trouble with your parents					101: 1 2 3 4 8 9
i) Been in an argument or fight					102: 1 2 3 4 8 9
j) Tried any drugs eg. cannabis, Ecstasy					103: 1 2 3 4 8 9
k) Felt you had a really good time					104: 1 2 3 4 8 9
l) Felt more at ease with friends					105: 1 2 3 4 8 9

Col. 106

Q. 19 Do you feel that you have to drink alcohol in order to have a good time when you are with your friends, at a party etc?
(Tick one box)

Always	☐	1
Often	☐	2
Sometimes	☐	3
Never	☐	4
		8 n/a
		9 m

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Col.

Q20 Below is a list of some reasons why people drink alcohol. Put a tick by each item to show whether that reason is TRUE or FALSE for you.

	True	False	Don't Know	
a) I like the taste				107: 1 2 3 8 9
b) So as not to be the 'odd one out' in a group				108: 1 2 3 8 9
c) To calm my nerves and help me relax				109: 1 2 3 8 9
d) To give myself courage and confidence				110: 1 2 3 8 9
e) To help me talk to members of the opposite sex more easily				111: 1 2 3 8 9
f) So that my friends won't think I'm scared				112: 1 2 3 8 9
g) To get drunk or 'high'				113: 1 2 3 8 9
h) To help me mix more easily with people				114: 1 2 3 8 9
i) To help me stop worrying				115: 1 2 3 8 9
j) Because my friends drink				116: 1 2 3 8 9
k) Because it's an adult thing to do				117: 1 2 3 8 9
l) To look good in front of other people				118: 1 2 3 8 9
m) To find out what it's like				119: 1 2 3 8 9

Col. 120-121

What would you say is your main reason for drinking alcohol?

(write in)_____

01	13
02	14
03	88 n/a
04	99 m
05	
06	
07	
08	
09	
10	
11	
12	

NOW MOVE TO QUESTION 24. DO NOT ANSWER QUESTIONS 21, 22 & 23 UNLESS YOU HAVE NEVER HAD AN ALCOHOLIC DRINK.

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QUESTIONS 21 TO 23 ARE TO BE ANSWERED BY EVERYONE WHO HAS NEVER HAD AN ALCOHOLIC DRINK OR WHO NEVER DRINKS NOW.

Col.

Q21 Below is a list of some reasons why people do not drink. Read through the list and tick each item to show whether the reason is TRUE or FALSE for you.

	True	False	Don't know	
Dislike the taste				122: 1 2 3 8 9
Drinking is bad for you				123: 1 2 3 8 9
Drinking costs too much				124: 1 2 3 8 9
People who drink are unpleasant				125: 1 2 3 8 9
Drinking is against my religious beliefs				126: 1 2 3 8 9
Drinking makes people behave badly				127: 1 2 3 8 9
Once you start drinking you can't stop the habit				128: 1 2 3 8 9
My parents disapprove of drinking				129: 1 2 3 8 9
I want to be fit				130: 1 2 3 8 9
Drinking makes you put on weight				131: 1 2 3 8 9
My friends are against drinking				132: 1 2 3 8 9
I am too young				133: 1 2 3 8 9

What would you say is your main reason for not drinking alcohol?

(write in)_____

Col. 134-135

01 13
02 88 n/a
03 99 m
04
05
06
07
08
09
10
11
12

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Col. 136

Q22 Do you think that you may drink alcohol when you get older? (Tick one box)

Yes	☐	1
No	☐	2
Only on special occasions	☐	3
Don't know	☐	4
		8 n/a
		9 m

Col.

Q23 Read through the questions below and then put a tick by each one to show how often they have happened to you.

	Often	Sometimes	Never	
a) Do your friends ever try to persuade you to have a drink?				137: 1 2 3 8 9
b) Have you ever been tempted to try an alcoholic drink when someone offered it?				138: 1 2 3 8 9
c) Do you ever feel left out (e.g. at a party) because you are not drinking alcohol?				139: 1 2 3 8 9

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ALL REMAINING QUESTIONS ARE TO BE ANSWERED BY EVERYONE.

Col. 140

Q24 Have you ever tried smoking? (Tick one box)

Yes ☐
No ☐

1
2
9 m

Col. 141

Q25 Are you a cigarette (or cigar or pipe) smoker at the moment? (Tick one box)

Yes ☐
No ☐

1
2
9 m

If you ticked yes to question 24:

Col. 142-143

Q26 At what age did you first start smoking?

(Write in) _____ years old

06
07
08
09
10
11
12
13
14
15
16
88 n/a
99 m

If you ticked yes to question 25:

Col. 144

Q27 How many cigarettes (or cigars or pipes) do you smoke in a day?

(Write in) _____ cigarettes per day

1
2
3
4
5
8 n/a
9 m

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Q28 Please read through the list of drugs given below and put a tick by each one to show how often, if ever, you have used them. **DO NOT** INCLUDE DRUGS PRESCRIBED TO YOU BY A DOCTOR.

Col.

	Never	Once	2-5 times	6-10 times	More than 10 times	
a) Cannabis (pot, dope, grass, marihuana)						145: 1 2 3 4 5 9
b) LSD (acid, tabs)						146: 1 2 3 4 5 9
c) Ecstasy (E)						147: 1 2 3 4 5 9
d) Magic Mushrooms						148: 1 2 3 4 5 9
e) Glues, Solvents, Dry-cleaning Fluids, Gases						149: 1 2 3 4 5 9
f) Cocaine (coke, crack)						150: 1 2 3 4 5 9
g) Heroin (smack)						151: 1 2 3 4 5 9
h) Astrolite						152: 1 2 3 4 5 9
i) Barbiturates (barbs, downers).						153: 1 2 3 4 5 9
j) Amphetamines (pep pills, speeds)						154: 1 2 3 4 5 9
k) Sleeping tablets/ tranquillizers						155: 1 2 3 4 5 9
l) Painkillers (e.g. DFll8s)						156: 1 2 3 4 5 9
m) Other (Write in) _____						157: 1 2 3 4 5 9

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Col. 158

Q29 How many of your friends drink alcohol? (Tick one box)

All of them	☐	1
Most of them	☐	2
Mainly the boys	☐	3
Mainly the girls	☐	4
Only some of them	☐	5
My friends do not drink	☐	6
Don't know	☐	9 m

Col.

Q30 Below is a list of statements. Please put a tick by each to show <u>your</u> attitude towards them.

	Approve	Neither Approve nor Disapprove	Disapprove	Don't Know	
a) seeing a male friend drunk					159: 1 2 3 4 9
b) Seeing a female friend drunk					160: 1 2 3 4 9
c) Seeing an adult male drunk					161: 1 2 3 4 9
d) Seeing an adult female drunk					162: 1 2 3 4 9
e) A male friend having 3 or 4 drinks on one occasion					163: 1 2 3 4 9
f) A female friend having 3 or 4 drinks on one occasion					164: 1 2 3 4 9

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Col. 165

Q31 Does your father (or stepfather or other male guardian) ever take a drink? (even just occasionally)
(Tick one box)

Yes	☐	1
No	☐	2
Don't know	☐	3
		9 m

Col. 166

Q32 Does your mother (or stepmother or other female guardian) ever take a drink? (even just occasionally)
(Tick one box)

Yes	☐	1
No	☐	2
Don't know	☐	3
		9 m

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Q33 Below is a list of statements. Please put a tick by each to indicate what you think your father's (or stepfather or other male guardian) attitudes are towards them.

Col.

	Approve	Neither approve nor disapprove	Disapprove	Don't know	
a) You having an alcoholic drink at home e.g. with a meal					167: 1 2 3 4 9
b) You having an alcoholic drink at a party					168: 1 2 3 4 9
c) You having an alcoholic drink in a pub with friends					169: 1 2 3 4 9
d) You drinking in other places					170: 1 2 3 4 9
e) Seeing you drunk					171: 1 2 3 4 9
f) Seeing a man drunk					172: 1 2 3 4 9
g) Seeing a woman drunk					173: 1 2 3 4 9
h) You having 3 or 4 drinks on one occasion					174: 1 2 3 4 9
i) A man having 3 or 4 drinks on one occasion					175: 1 2 3 4 9
j) A woman having 3 or 4 drinks on one occasion					176: 1 2 3 4 9

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Col.

Q34 Below is a list of statements. Please put a tick by each to indicate what you think your mother's (or stepmother or other female guardian) attitudes are towards them.

	Approve	Neither approve nor disapprove	Disapprove	Don't know	
a) You having an alcoholic drink at home e.g. with a meal					177: 1 2 3 4 9
b) You having an alcoholic drink at a party					178: 1 2 3 4 9
c) You having an alcoholic drink in a pub with friends					179: 1 2 3 4 9
d) You drinking in other places					180: 1 2 3 4 9
e) Seeing you drunk					181: 1 2 3 4 9
f) Seeing a man drunk					182: 1 2 3 4 9
g) Seeing a woman drunk					183: 1 2 3 4 9
h) You having 3 or 4 drinks on one occasion					184: 1 2 3 4 9
i) A man having 3 or 4 drinks on one occasion					185: 1 2 3 4 9
j) A woman having 3 or 4 drinks on one occasion					186: 1 2 3 4 9

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Q35 How often do you attend a religious service? (Tick one box)

Col. 187

More than once a week	☐	1
Once a week	☐	2
Once or twice a month	☐	3
A few times a year	☐	4
Only on special occasions eg Christmas	☐	5
Never	☐	6
		9 m

Q36 Have you ever taken a pledge (at church or school) not to drink until a certain age? (Tick one box)

Col. 188

Yes	☐	1
No	☐	2
Don't know	☐	3
		9 m

Q37 Do you have a part-time job? (Tick one box)

Col. 189

Yes	☐	1
No	☐	2
		9 m

If YES, how much do you earn a week?

Col. 190

(write in) £_____

1
2
3
4
5
8 n/a
9 m

Q38 Each week, how much money do you have of your own to spend as you like? (Tick one box)

Col. 191

Less than £1	☐	1
£1 or more, but less than £5	☐	2
£5 or more, but less than £10	☐	3
£10 or more, but less than £20	☐	4
£20 or more	☐	5
		6
		9 m

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Col.

Q39 Below is a list of spare time/leisure activities. Please put a tick to show how often you enjoy each one

	Never	Once or Twice a year	Three or Four times a year	Once a month	Twice a month	Once a week or more	
a) Go to the cinema							192: 1 2 3 4 5 6 9
b) Play a sport							193: 1 2 3 4 5 6 9
c) Follow a sport (as a spectator)							194: 1 2 3 4 5 6 9
d) Go shopping for clothes							195: 1 2 3 4 5 6 9
e) Go shopping for records							196: 1 2 3 4 5 6 9
f) Watch videos							197: 1 2 3 4 5 6 9
g) Visit friends							198: 1 2 3 4 5 6 9
h) Go to a pub							199: 1 2 3 4 5 6 9
i) Go to a disco or party							200: 1 2 3 4 5 6 9
j) Go drinking not in a pub, disco, party or at friends							201: 1 2 3 4 5 6 9
k) Go to a Youth Club							202: 1 2 3 4 5 6 9
l) Attend a club or association (eg Guides, Scouts, Venture Scouts etc)							203: 1 2 3 4 5 6 9
m) Play a musical instrument							204: 1 2 3 4 5 6 9
n) Other (write in) _____ _____ _____							205: 1 2 3 4 5 6 9

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Col.

206: 1 2 3 4 5 9
207: 1 2 3 4 5 9
208: 1 2 3 4 5 9

Q40 In an average <u>week</u> have you any idea how much you spend on the following? (if nothing, write 0)

Alcohol	£____
Smoking	£____
Drugs	£____

Col. 209

Q41 At what age do you think you will leave school? (Tick one box)

16	☐
17	☐
18	☐
Don't know	☐

1
2
3
4
9 m

Q42 What would you like to do when you leave school?

Col. 210

(write in) _____

1
2
3
4
9 m

3 Below is a list of different ways which are used to tell people about alcohol, smoking and drugs.
Tick any that you have personally ever had in your school.

	Alcohol	Smoking	Drugs
lm or video			
eaflet			
uest speaker			
esson from a acher			
ook			
lass iscussion			
ther			

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211 3 9	Col 212 1 2 3 9	Col 213 1 2 3 9	Col 214 1 2 3 9	Col 215 1 2 3 9
216 3 9	Col 217 1 2 3 9	Col 218 1 2 3 9	Col 219 1 2 3 9	Col 220 1 2 3 9
221 3 9	Col 222 1 2 3 9	Col 223 1 2 3 9	Col 224 1 2 3 9	Col 225 1 2 3 9
226 3 9	Col 227 1 2 3 9	Col 228 1 2 3 9	Col 229 1 2 3 9	Col 230 1 2 3 9
231 3 9				

14 Have you ever been given any information about alcohol, smoking or drugs from any of the following sources OUTSIDE SCHOOL? (Tick all that apply)

	Alcohol	Smoking	Drugs
Doctor or Nurse			
Someone from your church			
Your parents			
A friend			
Television or Radio			
Magazines or Newspapers			
Leaflets handed out on streets or put through the door			
Anywhere else (write in)			

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Col 232 1 2 3 9	Col 233 1 2 3 9	Col 234 1 2 3 9	Col 235 1 2 3 9	Col 236 1 2 3 9
Col 237 1 2 3 9	Col 238 1 2 3 9	Col 239 1 2 3 9	Col 240 1 2 3 9	Col 241 1 2 3 9
Col 242 1 2 3 9	Col 243 1 2 3 9	Col 244 1 2 3 9	Col 245 1 2 3 9	Col 246 1 2 3 9
Col 247 1 2 3 9	Col 248 1 2 3 9	Col 249 1 2 3 9	Col 250 1 2 3 9	Col 251 1 2 3 9
Col 252 1 2 3 9	Col 253 1 2 3 9	Col 254 1 2 3 9	Col 255 1 2 3 9	

HANK YOU FOR ANSWERING THESE QUESTIONS.

ERE THERE ANY QUESTIONS YOU MEANT TO GO BACK
ND COMPLETE?

YOU HAVE FINISHED EARLY, PLEASE USE THE SPACE BELOW
) WRITE DOWN ANY COMMENTS OR FEELINGS YOU HAVE ON
LCOHOL, TOBACCO AND DRUGS OR ON THIS QUESTIONNAIRE
R YOU CAN JUST DOODLE!).

HANK-YOU.

APPENDIX B

TABLES FOR LOGISTIC AND LOG-LINEAR REGRESSION MODELS

Table 4.I: Results of logistic regression analysis predicting drinking vs. abstaining

Variable	Abbreviation	Log Odds	95% confidence intervals		Odds Ratios
			lower	upper	
COUNTRY					
(ref cat=Scotland)	CO1				1
N. Ireland	CO2	**-1.071**	-1.729	-0.413	**0.343**
GENDER					
(ref cat=Male)	SEX1				1
Female	SEX2	**-1.265**	-1.731	-0.799	**0.282**
AGE					
(ref cat=11-12 years old)	AGE1				1
14-16 years old	AGE2	**1.527**	0.609	2.445	**4.604**
DENOMINATION					
(ref cat=Roman Catholic)	DENOM1				1
Protestant/non-denominational	DENOM2	-0.090	-0.568	0.388	0.914
SOCIO-ECONOMIC STATUS					
(ref cat=Middle class)	SES1				1
Working Class	SES2	-0.180	-0.798	0.438	0.835
COUNTRY BY AGE	CO2 BY AGE2	-0.408	-1.400	0.584	0.665
COUNTRY BY SES	CO2 BY SES2	0.089	-1.405	0.823	1.093
COUNTRY BY DENOM	CO2 BY DENOM2	**0.865**	0.217	1.513	**2.375**
AGE BY GENDER	AGE2 BY SEX2	**0.809**	0.135	1.483	**2.246**
AGE BY SES	AGE2 BY SES2	**-1.211**	-2.241	-0.181	**0.298**
GENDER BY SES	SEX2 BY SES2	**0.749**	0.139	1.359	**2.115**
COUNTRY BY AGE BY SES	CO2 BY AGE2 BY SES2	**1.809**	0.429	3.189	**6.104**

N.B. Statistically significant (at 0.95 level) log odds and exponentiated odds ratios are emboldened.

Table 4.III: Results of log-linear regression analysis of source of first alcoholic drink (base=parents)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
SOURCE OF ALCOHOL (ref cat=GIV1)				
GIV2	**-1.525**	-2.113	-0.937	**0.218**
GIV3	**-1.842**	-2.474	-1.210	**0.158**
GIV4	**-2.490**	-3.196	-1.784	**0.083**
GIV5	**-2.399**	-3.213	-1.585	**0.091**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY GIV1	-0.680	-1.079	0.282	0.507
CO2 BY GIV2	**0.754**	0.080	1.408	**2.125**
CO2 BY GIV3	**1.757**	1.055	2.459	**5.795**
CO2 BY GIV4	**1.743**	1.079	2.407	**5.714**
CO2 BY GIV5	**1.618**	0.736	2.500	**5.043**
DENOMINATION (ref cat=RC)				
Protestant/Non-denom - DENOM2 BY GIV1	**0.735**	0.405	1.065	**2.085**
DENOM2 BY GIV2	0.176	-0.542	0.894	1.192
DENOM2 BY GIV3	0.343	-0.419	1.105	1.409
DENOM2 BY GIV4	**0.986**	0.164	1.808	**2.680**
DENOM2 BY GIV5	-0.020	-1.038	0.998	0.819
SES (ref cat=Middle class)				
Working class - SES2 BY GIV1	**-0.487**	-0.875	-0.099	**0.615**
SES2 BY GIV2	**0.939**	0.259	1.619	**2.557**
SES2 BY GIV3	**0.646**	0.008	1.284	**1.908**
SES2 BY GIV4	**1.857**	1.161	2.553	**6.404**
SES2 BY GIV5	0.613	-0.195	1.421	1.846
CO2 BY DENOM2 BY GIV1	0.341	-0.125	0.807	1.406
CO2 BY DENOM2 BY GIV2	**-1.351**	-2.241	-0.461	**0.259**
CO2 BY DENOM2 BY GIV3	**-1.260**	-2.134	-0.386	**0.284**
CO2 BY DENOM2 BY GIV4	**-0.905**	-1.735	-0.075	**0.405**
CO2 BY DENOM2 BY GIV5	**-1.582**	-2.698	-0.466	**0.206**
DENOM2 BY SES2 BY GIV1	0.163	-0.293	0.619	1.177
DENOM2 BY SES2 BY GIV2	-0.587	-1.451	0.277	0.556
DENOM2 BY SES2 BY GIV3	-0.805	-1.633	0.023	0.447
DENOM2 BY SES2 BY GIV4	**-2.079**	-2.935	-1.223	**0.125**
DENOM2 BY SES2 BY GIV5	0.223	-0.833	1.289	1.250

SOURCE	GIV1	'Parents'
	GIV2	'Relatives'
	GIV3	'Younger friends'
	GIV4	'Older friends'
	GIV5	'Other source'

Table 4.IV : Results of log-linear regression analysis of length of time until next drink (base=less than one week)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
TIME UNTIL NEXT DRINK (ref cat=TIME1)				
TIME2	**0.832**	0.152	1.512	**2.298**
TIME3	0.495	-0.187	1.177	1.640
TIME4	**0.713**	0.023	1.403	**2.040**
TIME5	0.344	-0.460	1.148	1.411
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY TIME1	**0.971**	0.499	1.443	**2.640**
CO2 BY TIME2	-0.286	-0.830	0.258	0.751
CO2 BY TIME3	-0.342	-0.868	0.184	0.710
CO2 BY TIME4	**-0.620**	-1.170	-0.070	**0.538**
CO2 BY TIME5	**-0.851**	-1.531	-0.171	**0.427**
GENDER (ref cat=Male)				
Female - SEX2 BY TIME1	**-0.966**	-1.514	-0.418	**0.381**
SEX2 BY TIME2	0.557	-0.013	1.127	1.745
SEX2 BY TIME3	0.396	-0.160	0.952	1.486
SEX2 BY TIME4	**0.742**	0.168	1.316	**2.100**
SEX2 BY TIME5	**0.948**	0.254	1.642	**2.581**
AGE (ref cat=11-12 years old)				
14-16 yrs old - AGE2 BY TIME1	**1.020**	0.546	1.496	**2.773**
AGE2 BY TIME2	**-0.592**	-1.138	-0.046	**0.553**
AGE2 BY TIME3	-0.382	-0.914	0.150	0.682
AGE2 BY TIME4	**-0.732**	-1.284	-0.180	**0.481**
AGE2 BY TIME5	**-1.224**	-1.908	-0.540	**0.294**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY TIME1	**0.695**	0.159	1.231	**2.003**
CO2 BY SEX2 BY TIME1	**-0.450**	-0.798	-0.102	**0.638**
SEX2 BY DENOM2 BY TIME1	**0.421**	0.061	0.781	**1.523**

TIME PERIODS

TIME1 'Less than one week'
TIME2 'One week - one month'
TIME3 'One - six months'
TIME4 'Six months - one year'
TIME5 'Over one year'

Table 4.VI: Results of log-linear regression analysis of recency of last drinking occasion (base=within the previous week)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
RECENCY (ref cat=REC1)				
REC2	-0.199	-0.719	0.312	0.820
REC3	0.113	-0.369	0.595	1.120
REC4	**0.713**	0.249	1.177	**2.040**
REC5	**1.497**	1.091	1.900	**4.468**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY REC1	-0.080	-0.412	0.252	0.923
CO2 BY REC2	-0.017	-0.457	0.423	0.983
CO2 BY REC3	0.058	-0.364	0.480	1.060
CO2 BY REC4	**-0.506**	-0.966	-0.046	**0.602**
CO2 BY REC5	**-0.461**	-0.839	-0.083	**0.631**
AGE (ref cat=11-12 years old)				
14-16 yrs old - AGE2 BY REC1	**1.154**	0.784	1.524	**3.171**
AGE2 BY REC2	-0.398	-0.886	0.090	0.672
AGE2 BY REC3	**-0.860**	-1.308	-0.412	**0.423**
AGE2 BY REC4	**-1.431**	-1.907	-0.955	**0.239**
AGE2 BY REC5	**-1.854**	-2.258	-1.450	**0.157**
SES (ref cat=Middle class)				
Working class - SES2 BY REC1	**0.505**	0.167	0.844	**1.657**
SES2 BY REC2	**-0.482**	-0.924	-0.040	**0.618**
SES2 BY REC3	-0.294	-0.716	0.128	0.745
SES2 BY REC4	**-0.811**	-1.276	-0.349	**0.444**
SES2 BY REC5	**-0.779**	-1.163	-0.395	**0.459**
CO2 BY AGE2 BY REC1	**0.330**	0.040	0.620	**1.391**
AGE2 BY SES2 BY REC1	**-0.318**	-0.612	-0.024	**0.728**

RECENCY REC1 'Within the previous week'
REC2 '1-2 weeks ago'
REC3 '3-4 weeks ago'
REC4 '4 weeks - 3 months ago'
REC5 'Over 3 months ago'

Table 4.VIII: Results of log-linear regression analysis of location of most recent drinking occasion (base=at home, with parents

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
LOCATION(ref cat=LOCN1)				
LOCN2	**-0.964**	-1.654	-0.274	**0.381**
LOCN3	**-0.766**	-1.346	-0.186	**0.465**
LOCN4	**-2.128**	-2.928	-1.328	**0.119**
LOCN5	**-5.533**	-7.025	-4.041	**0.004**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY LOCN1	-0.349	-0.903	0.205	0.705
CO2 BY LOCN2	0.372	-0.520	1.264	1.451
CO2 BY LOCN3	0.396	-0.332	1.124	1.486
CO2 BY LOCN4	**1.085**	0.191	1.979	**2.959**
CO2 BY LOCN5	**3.670**	2.276	5.064	**39.252**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY LOCN1	**-0.766**	-1.086	-0.446	**0.640**
AGE2 BY LOCN2	**0.788**	0.334	1.242	**2.199**
AGE2 BY LOCN3	**1.569**	1.175	1.963	**4.802**
AGE2 BY LOCN4	**1.996**	1.502	2.490	**7.360**
AGE2 BY LOCN5	**2.272**	1.730	2.814	**9.699**
DENOM (ref cat=RC)				
Protestant/Non-denom - DENOM2 BY LOCN1	**0.642**	0.174	1.110	**1.900**
DENOM2 BY LOCN2	0.199	-0.577	0.975	1.220
DENOM2 BY LOCN3	0.274	-0.358	0.906	1.315
DENOM2 BY LOCN4	0.345	-0.485	1.175	1.412
DENOM2 BY LOCN5	**2.307**	0.995	3.619	**10.044**
SES (ref cat=Middle Class)				
Working class - SES2 BY LOCN1	-0.116	-0.664	0.432	0.890
SES2 BY LOCN2	0.482	-0.392	1.356	1.619
SES2 BY LOCN3	0.442	-0.286	1.170	1.556
SES2 BY LOCN4	0.329	-0.615	1.273	1.390
SES2 BY LOCN5	**4.047**	2.623	5.471	**57.226**
CO2 BY SES2 BY LOCN1	-0.563	-1.131	0.005	0.569
CO2 BY SES2 BY LOCN2	-0.673	-1.631	0.285	0.510
CO2 BY SES2 BY LOCN3	0.697	-0.049	1.443	2.008
CO2 BY SES2 BY LOCN4	**1.249**	0.301	2.197	**3.487**
CO2 BY SES2 BY LOCN5	**-1.702**	-2.982	-0.422	**0.182**
AGE2 BY SES2 BY LOCN1	**-0.434**	-0.732	-0.136	**0.648**
DENOM2 BY SES2 BY LOCN1	0.163	-0.445	0.771	1.177
DENOM2 BY SES2 BY LOCN2	-0.416	-1.400	0.568	0.660
DENOM2 BY SES2 BY LOCN3	-0.631	-1.419	0.157	0.532
DENOM2 BY SES2 BY LOCN4	-0.064	-1.036	0.908	0.938
DENOM2 BY SES2 BY LOCN5	**-2.686**	-3.894	-1.478	**0.068**

LOCATION LOCN1 'At home, with parents' LOCN4 'Public places'
LOCN2 'Away from home, under supervision' LOCN5 'Outdoors locations'
LOCN3 'Away from home, no supervision'

Table 4.X: Results of logistic regression analysis of company at most recent drinking occasion (others vs. parents)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY				
(ref cat=Scotland)				1
N. Ireland - CO2	**0.462**	0.384	0.540	**1.587**
GENDER				
(ref cat=Male)				1
Female - SEX2	**0.413**	0.121	0.705	**1.511**
AGE				
(ref cat=11-12 years old)				1
14-16 years old - AGE2	**1.810**	1.444	2.176	**6.110**

Table 4.XI: Results of log-linear regression analysis of age of friends at most recent drinking occasion (base=older)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
AGE OF FRIENDS (ref cat=FRD1)				
FRD2	0.259	-0.207	0.725	1.296
FRD3	-0.092	-0.580	0.396	0.912
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY FRD1	-0.019	-0.405	0.367	0.981
CO2 BY FRD2	0.010	-0.454	0.474	1.010
CO2 BY FRD3	**0.728**	0.234	1.222	**2.071**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY FRD1	**0.398**	0.004	0.792	**1.489**
AGE2 BY FRD2	**0.808**	0.310	1.306	**2.243**
AGE2 BY FRD3	0.383	-0.119	0.885	1.467

AGE OF FRIENDS

FRD1 'Older'
FRD2 'Same age or younger'
FRD3 'Mixed ages'

Table 4.XIII: Results of log-linear regression analyses of consumption on most recent drinking occasion (base = abstainers)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
MALES				
DRINKER TYPE (ref cat = DT1)				
DT2	**1.357**	0.947	1.767	**3.885**
DT3	**-2.861**	-3.757.	-1.965	**0.057**
COUNTRY (ref cat = Scotland)				
N. Ireland - CO2 BT DT1	**0.523**	0.003	1.043	**1.687**
CO2 BY DT2	-0.234	-0.662	0.194	0.791
CO2 BY DT3	**0.513**	0.187	0.839	**1.670**
AGE (ref cat = 11-12 years old)				
14-16 years old - AGE2 BY DT1	**-1.204**	-1.672	-0.736	**0.230**
AGE2 BY DT2	**0.794**	0.330	1.258	**2.212**
AGE2 BY DT3	**3.090**	2.268	3.912	**21.977**
DENOM (ref cat = Roman Catholic)				
Protestant/Non-denom - DENOM2 BY DT1	**0.557**	0.205	0.909	**1.745**
SES (ref cat = Middle Class)				
Working class-SES2 BY DT1	0.132	-0.402	0.666	1.141
SES2 BY DT2	**-0.438**	-0.860	-0.016	**0.645**
SES2 BY DT3	0.511	-0.087	1.109	1.667
CO2 BY DENOM2 BY DT1	-0.031	-0.501	0.439	0.969
CO2 BY SES2 BY DT1	**0.603**	0.081	1.125	**1.828**
DENOM2 BY SES2 BY DT1	0.244	-0.262	0.750	1.276
CO2 BY DENOM2 BY SES2 BY DT1	**-1.500**	-2.180	-0.820	**0.223**
FEMALES				
DRINKER TYPE (ref cat = DT1)				
DT2	**1.061**	0.485	1.637	**2.889**
DT3	**-1.438**	-2.252	-0.624	**0.237**
COUNTRY (ref cat = Scotland)				
N. Ireland - CO2 BY DT1	**0.681**	0.071	1.291	**1.976**
CO2 BY DT2	**-0.780**	-1.412	-0.148	**0.458**
CO2 BY DT3	**0.715**	0.543	0.887	**2.044**
AGE (ref cat = 11-12 years old)				
14-16 years old - AGE2 BY DT1	**-1.155**	-1.623	-0.687	**0.315**
AGE2 BY DT2	**0.604**	0.132	1.076	**1.829**
AGE2 BY DT3	**2.641**	2.015	3.267	**14.027**
DENOM (ref cat = Roman Catholic)				
Protestant/Non-denom - DENOM2 BY DT1	**0.749**	0.277	1.221	**2.115**
SES (ref cat = Middle class)				
Working class - SES2 BY DT1	**0.649**	0.047	1.251	**1.914**
SES2 BY DT2	-0.302	-0.936	0.330	0.739
SES2 BY DT3	-0.453	-1.297	0.391	0.638
CO2 BY DENOM2 BY DT1	**-0.740**	-1.082	-0.398	**0.477**
CO2 BY SES2 BY DT1	-0.285	-1.041	0.471	0.752
CO2 BY SES2 BY DT2	-0.374	-1.238	0.490	0.688
CO2 BY SES2 BY DT3	**1.184**	0.110	2.258	**3.267**
DENOM2 BY SES2 BY DT1	**-0.551**	-0.889	-0.213	**0.576**

DRINKER TYPES DT1 'Abstainers'
DT2 'Light drinkers'
DT3 'Heavy drinkers'

Table 4.XV: Summary of results of logistic regression analyses on type of alcohol consumed on most recent drinking occasion (significant odds ratios only)

Variable	Odds Ratios						
	Beer	Lager	Cider	Strong beer	Strong cider	Wine	Spirits
COUNTRY (ref cat=Scotland)	1	1	1		1	1	1
N. Ireland - CO2	0.447	3.817	3.546		0.293	0.809	2.645
GENDER (ref cat=Male)	1	1			1	1	1
Female - SEX2	0.312	0.264			0.580*	3.030	1.946
AGE (ref cat=11-12 years old)	1	1	1	1		1	1
14-16 years old - AGE2	0.611	2.632	6.024	12.346		0.348	3.745
DENOMINATION (ref cat=Roman Catholic)			1		1	1	1
Protestant/Non-denom DENOM2			1.044*		0.646*	0.812*	0.607
SES (ref cat=Middle class)	1	1	1		1	1	1
Working class - SES2	1.799	1.466	2.538		5.263	0.258	0.407
CO2 BY SEX2	3.245				2.857	0.532	
CO2 BY AGE2		0.441	0.235				
CO2 BY DENOM2					5.988		
DENOM2 BY SES2			0.318		0.081	3.086	0.271

* Non-significant main effects, but components of significant interactive effects

Table 4.XVIII: Results of log-linear regression analysis of frequency of greatest amount of alcohol ever consumed (base=once)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
FREQUENCY (ref cat=Once)				
FREQ2	**-0.349**	-0.643	-0.055	**0.705**
FREQ3	**-2.321**	-2.953	-1.689	**0.098**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY FREQ1	0.164	-0.118	0.446	1.178
GENDER (ref cat=Males)				
Females - SEX2 BY FREQ1	**-0.589**	-0.899	-0.279	**0.555**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY FREQ1	**-0.321**	-0.637	-0.005	**0.725**
AGE2 BY FREQ2	0.341	-0.049	0.731	1.406
AGE2 BY FREQ3	0.695	-0.079	1.469	2.004
DENOM (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY FREQ1	**0.801**	0.521	1.081	**2.228**
SES (ref cat=Middle Class)				
Working class - SES2 BY FREQ1	-0.069	-0.413	0.275	0.933
SES2 BY FREQ2	**0.507**	0.079	0.935	**1.660**
SES2 BY FREQ3	**1.322**	0.550	2.094	**3.751**
CO2 BY AGE2 BY FREQ1	**0.485**	0.209	0.761	**1.624**
CO2 BY SEX2 BY FREQ1	**-0.436**	-0.714	-0.158	**0.647**
CO2 BY DENOM2 BY FREQ1	**-0.419**	-0.701	-0.137	**0.658**
AGE2 BY SEX2 BY FREQ1	**0.399**	0.121	0.677	**1.490**
AGE2 BY SES2 BY FREQ1	0.283	-0.115	0.681	1.327
AGE2 BY SES2 BY FREQ2	**-0.635**	-1.206	-0.068	**0.530**
AGE2 BY SES2 BY FREQ3	**-1.261**	-2.263	-0.259	**0.283**
SEX2 BY DENOM2 BY FREQ1	**0.455**	0.167	0.743	**1.576**
DENOM2 BY SES2 BY FREQ1	**-0.508**	-0.788	-0.228	**0.602**

FREQUENCY OF CONSUMPTION:

FREQ1: ONCE
FREQ2: 2-5 TIMES
FREQ3: 6 OR MORE TIMES

Table 4.XX: Results of log-linear regression analysis of number of drinking days within last week (base=non-diary drinker)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
DRINKER TYPE(ref cat=DT1)				
DT2	**-3.316**	-4.370	-2.262	**0.004**
DT3	**-3.572**	-4.538	-2.606	**0.028**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY DT1	0.194	-0.150	0.538	1.214
CO2 BY DT2	0.825	-0.215	1.865	2.282
CO2 BY DT3	0.241	-0.663	1.145	1.273
GENDER (ref cat=Male)				
Female - SEX2 BY DT1	**-0.581**	-0.969	-0.193	**0.559**
SEX2 BY DT2	**-1.211**	-2.031	-0.391	**0.298**
SEX2 BY DT3	-1.021	-2.163	0.121	0.360
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY DT1	**-0.407**	-0.717	-0.097	**0.666**
AGE BY DT2	0.319	-0.197	0.835	1.376
AGE BY DT3	**1.581**	0.979	2.183	**4.860**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY DT1	0.271	-0.159	0.783	1.311
DENOM2 BY DT2	**1.807**	0.781	2.833	**6.092**
DENOM2 BY DT3	**1.228**	0.358	2.098	**3.414**
SES (ref cat=Middle Class)				
Working Class - SES2 BY DT1	0.085	-0.281	0.451	1.089
SES2 BY DT2	**1.476**	0.452	2.500	**4.375**
SES2 BY DT3	**0.749**	0.157	1.655	**2.115**
CO2 BY SEX2 BY DT1	**-0.459**	-0.739	-0.179	**0.632**
CO2 BY AGE2 BY DT1	**0.412**	0.126	0.698	**1.510**
CO2 BY DENOM2 BY DT1	-0.149	-0.481	0.183	0.862
CO2 BY DENOM2 BY DT2	**-1.246**	-2.196	-0.296	**0.288**
CO2 BY DENOM2 BY DT3	-0.874	-1.752	0.004	0.417
CO2 BY SES2 BY DT1	**-0.472**	-0.798	-0.101	**0.624**
CO2 BY SES2 BY DT2	**1.488**	0.634	2.342	**4.428**
CO2 BY SES2 BY DT3	**2.044**	1.274	2.814	**7.721**
SEX2 BY DENOM2 BY DT1	**0.448**	0.158	0.738	**1.565**
SEX2 BY SES2 BY DT1	0.302	-0.118	0.722	1.356
AGE2 BY SEX2 BY DT1	**0.516**	0.108	0.924	**1.675**
AGE2 BY SEX2 BY DT2	**1.294**	0.328	2.260	**3.647**
AGE2 BY SEX2 BY DT3	1.031	-0.191	2.253	2.804
AGE2 BY SES2 BY DT1	-0.027	-0.393	0.339	0.973
DENOM2 BY SES2 BY DT1	-0.173	-0.505	0.159	0.841
DENOM2 BY SES2 BY DT2	**-1.332**	-2.326	-0.338	**0.264**
DENOM2 BY SES2 BY DT3	**-1.240**	-2.118	-0.362	**0.289**

DRINKER TYPES

1 'Non diary drinker'
2 'Diary drinker, drinks on one day only'
3 'Diary drinker, drinks on more than one day'

Table 5.II: Intercorrelations among drinking consequences

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Happy (a)	X											
Good time (b)	**0.70**	X										
Ease (c)	**0.64**	**0.69**	X									
Vomited (d)	**0.37**	**0.29**	**0.38**	X								
Dizzy (e)	**0.37**	**0.36**	**0.38**	**0.33**	X							
Headache (f)	**0.25**	**0.28**	**0.31**	**0.31**	**0.37**	X						
Ill (g)	**0.19**	**0.21**	**0.16**	**0.32**	**0.20**	**0.29**	X					
Fallen (h)	**0.48**	**0.45**	**0.44**	**0.47**	**0.38**	**0.31**	**0.32**	X				
Memory (i)	**0.48**	**0.50**	**0.46**	**0.32**	**0.36**	**0.33**	**0.32**	**0.60**	X			
Drugs (j)	**0.37**	**0.41**	**0.37**	**0.34**	**0.17**	**0.12**	**0.29**	**0.48**	**0.40**	X		
Trouble (k)	**0.31**	**0.31**	**0.27**	**0.34**	**0.24**	**0.24**	**0.29**	**0.35**	**0.34**	**0.33**	X	
Fight (l)	**0.30**	**0.33**	**0.33**	**0.29**	**0.25**	**0.25**	**0.36**	**0.40**	**0.38**	**0.37**	**0.32**	X
Males: Drinker Status	**0.32**	**0.32**	**0.32**	**0.28**	NS	NS	NS	**0.26**	**0.20**	**0.32**	NS	**0.26**
Females : Drinker Status	**0.41**	**0.40**	**0.35**	**0.34**	**0.27**	**0.21**	**0.17**	**0.47**	**0.45**	**0.37**	**0.31**	**0.33**

N.B. All correlations are significant at $p < 0.05$ or higher

Table 5.III: Results of logistic analysis on membership of drinking consequences cluster (odds ratios = member of 'eventful drinkers' vs member of 'uneventful drinkers')

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
MALES				
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2	**1.008**	0.078	1.938	**2.740**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2	0.740	-0.456	1.936	2.096
DENOMINATION (ref cat=Roman Catholic)				
Protestant/non-denominational - DENOM2	0.373	-0.679	1.425	1.452
SES (ref cat=Middle class)				
Working Class - SES2	0.292	-0.172	0.756	1.339
DRINKING STATUS (ref cat =light-moderate)				
Heavy drinkers - DS2	**3.437**	0.431	5.443	**31.094**
CO2 BY AGE2	0.512	-0.924	1.948	1.669
CO2 BY DENOM2	-0.156	-1.502	1.190	0.856
AGE2 BY DENOM2	0.859	-0.575	2.293	2.361
SES2 BY DS2	**-2.258**	-4.410	-0.106	**0.105**
CO2 BY AGE2 BY DENOM2	**-1.849**	-3.665	-0.033	**0.157**
FEMALES				
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2	-0.038	-0.770	0.694	0.963
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2	**2.514**	1.780	3.248	**12.354**
SES (ref cat=Middle class)				
Working Class - SES2	-0.006	-0.744	0.732	0.994
DRINKING STATUS (ref cat =light-moderate)				
Heavy drinkers - DS2	**1.983**	1.225	2.741	**7.265**
CO2 BY SES2	**1.215**	0.081	2.349	**3.370**

Table 5.IV: Results of logistic analysis of lifetime prevalence of smoking vs. not smoking

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2	-0.022	-0.512	0.514	0.980
GENDER (ref cat=Male)				
Female - SEX2	**-0.562**	-1.050	-0.074	**0.570**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2	**1.720**	1.320	2.120	**5.585**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/non-denominational - DENOM2	**-0.500**	-0.792	-0.208	**0.607**
SES (ref cat=Middle class)				
Working Class - SES2	-0.024	-0.498	0.450	0.976
DRINKING STATUS (ref cat =abstainers)				
Drinkers - DS2	**2.056**	1.646	2.466	**7.815**
CO2 BY SEX2	**1.244**	0.265	1.393	**3.437**
CO2 BY AGE2	**-0.898**	-1.452	-0.344	**0.407**
CO2 BY SES2	**0.727**	0.167	1.287	**2.069**
SEX2 BY SES2	**0.610**	0.048	1.172	**1.840**

Table 5.V: Results of logistic regression analysis of current smoking status (odds ratios=smokers vs non-smokers)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	0.375	-0.615	1.365	1.455
GENDER (ref cat=Male)				1
Female - SEX2	-0.092	-0.642	0.458	0.912
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**2.277**	1.303	3.251	**9.747**
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/non-denominational - DENOM2	**-0.390**	-0.758	-0.022	**0.677**
SES (ref cat=Middle class)				1
Working Class - SES2	**1.608**	0.636	2.580	**4.993**
DRINKING STATUS (ref cat =abstainers)				1
Drinkers - DS2	**2.718**	1.614	3.822	**15.150**
CO2 BY SE2	**0.815**	0.087	1.543	**2.259**
CO2 BY AGE2	**-0.751**	-1.381	-0.121	**0.472**
CO2 BY SES2	**0.693**	0.121	1.265	**2.000**
AGE2 BY SES2	**-1.057**	-2.001	-0.113	**0.347**

Table 5.VI: Results of loglinear analysis of number of cigarettes smoked daily (base=1-5 cigarettes)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
SMOKING CATEGORY (ref cat=SM1)				
SM2	-0.875	-1.985	0.311	0.417
SM3	-0.799	-1.861	0.263	0.450
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY SM1	0.614	-0.266	1.494	1.848
CO2 BY SM2	-0.149	-1.553	1.255	0.862
CO2 BY SM3	-1.313	-2.855	0.229	0.269
GENDER (ref cat=Male)				
Female - SEX2 BY SM1	-0.619	-1.906	0.669	0.538
DENOM (ref cat=RC)				
Protestant/Non-denom - DENOM2 BY SM1	0.367	-0.291	1.025	1.443
DENOM2 BY SM2	**-1.010**	-1.768	-0.252	**0.364**
DENOM2 BY SM3	-0.377	-1.135	0.381	0.686
SES (ref cat=Middle Class)				
Working Class - SES2 BY SM1	0.683	-0.459	1.825	1.980
SES BY SM2	0.567	-0.769	1.903	1.763
SES BY SM3	0.153	-1.083	1.389	1.165
CO2 BY SES2 BY SM1	-0.049	-1.129	1.031	0.952
CO2 BY SES2 BY SM2	1.193	-0.509	2.895	3.297
CO2 BY SES2 BY SM3	**2.343**	0.517	4.169	**10.412**
SEX2 BY DENOM2 BY SM1	**1.005**	0.377	1.633	**2.732**

SMOKING CATEGORIES: SM1: ' 1-5 cigarettes'
SM2: ' 6-10 cigarettes'
SM3: ' 11+ cigarettes'

Table 5.VII: Logistic regression analysis of ever used drugs vs never used

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	-0.242	-0.646	0.162	0.785
GENDER (ref cat=Male)				1
Female - SEX2	**-2.735**	-4.269	-1.201	**0.065**
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**0.834**	0.476	1.192	**2.303**
SES (ref cat=Middle class)				1
Working Class - SES2	**0.456**	0.058	0.856	**1.578**
DRINKING STATUS (ref cat =abstainers)				1
Drinkers - DS2	**1.526**	0.926	2.126	**4.600**
CO2 BY SES2	**0.677**	0.115	1.239	**1.968**
SEX2 BY AGE2	**1.158**	0.502	1.814	**3.184**
SEX2 BY DS2	**1.490**	0.174	2.806	**4.437**

Table 5.IX: Loglinear regression analysis of drug-taking clusters (base=non-users)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
DRUG TAKING CATEGORY (ref cat=DG1)				
DG2	**-4.813**	-6.065	-3.561	**0.008**
DG3	**-6.780**	-9.082	-4.478	**0.001**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY DG1	**0.971**	0.625	1.317	**2.641**
CO2 BY DG2	-0.497	-1.101	0.107	0.608
CO2 BY DG3	-0.536	-1.810	0.738	0.585
GENDER (ref cat=Male)				
Female - SEX2 BY DG1	0.132	-0.200	0.464	1.141
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY DG1	**-1.357**	-1.723	-0.991	**0.257**
AGE2 BY DG2	**1.684**	0.978	2.390	**5.387**
AGE2 BY DG3	**1.172**	0.200	2.144	**3.228**
DENOM (ref cat=RC)				
Protestant/Non-denom - DENOM2 BY DG1	**0.557**	0.195	0.919	**1.745**
DENOM2 BY DG2	**-1.474**	-2.760	-0.188	**0.229**
DENOM2 BY DG3	0.835	-0.374	2.044	2.305
SES (ref cat=Middle Class)				
Working Class - SES2 BY DG1	0.244	-0.022	0.510	1.276
SES2 BY DG2	0.532	-0.194	1.258	1.702
SES2 BY DG3	1.594	-0.676	3.864	4.923
DRINKING STATUS (ref cat=Abstainers)				
Drinkers - DS2 BY DG1	**-0.825**	-1.171	-0.479	**0.438**
DS2 BY DG2	**2.002**	0.956	3.048	**7.404**
DS2 BY DG3	**8.544**	2.064	15.024	**5135.847**
CO2 BY SES2 BY DG1	**-0.535**	-0.803	-0.267	**0.586**
CO2 BY SES2 BY DG2	**0.796**	0.026	1.566	**2.217**
CO2 BY SES2 BY DG3	**2.391**	0.855	3.927	**10.924**
CO2 BY DS2 BY DG1	**-0.357**	-0.655	-0.059	**0.700**
AGE2 BY DENOM2 BY DG1	-0.128	-0.414	0.158	0.880
AGE2 BY DENOM2 BY DG2	**1.390**	0.134	2.646	**4.014**
AGE2 BY DENOM2 BY DG3	0.752	-0.712	2.216	2.121
AGE2 BY DS2 BY DG1	**1.202**	0.862	1.542	**3.327**
SEX2 BY DENOM2 BY DG1	**0.407**	0.155	0.663	**1.502**
SEX2 BY DS2 BY DG1	**-0.650**	-0.952	-0.348	**0.522**
DENOM2 BY DS2 BY DG1	**0.463**	0.151	0.775	**1.589**
DENOM 2 BY SES2 BY DG1	**-0.448**	-0.724	-0.172	**0.639**

DRUG TAKING CATEGORIES: DG1: 'Non-users'
DG2: 'Limited use'
DG3: 'Varied use '

Table 5.X a: Predictors (including drinking status) of age at which respondent is intending to leave school (base=16 years old)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
SCHOOL LEAVING AGE (ref cat=SL1)				
SL2	**2.610**	1.548	3.672	**13.599**
SL3	**4.033**	3.089	4.977	**56.430**
SL4	**4.010**	3.056	4.964	**55.147**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY SL1	**1.351**	0.825	1.877	**3.861**
CO2 BY SL2	**-1.927**	-2.487	-1.367	**0.146**
CO2 BY SL3	**-0.922**	-1.402	-0.442	**0.398**
CO2 BY SL4	**-0.516**	-0.970	-0.062	**0.597**
GENDER (ref cat=Male)				
Female - SEX2 BY SL1	-0.345	-0.831	0.141	0.708
SEX2 BY SL2	**0.737**	0.225	1.249	**2.090**
SEX2 BY SL3	**0.603**	0.161	1.045	**1.818**
SEX2 BY SL4	0.056	-0.408	0.520	1.058
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY SL1	**-0.809**	-1.339	-0.279	**0.445**
AGE2 BY SL2	-0.160	-0.690	0.370	0.852
AGE2 BY SL3	-0.285	-0.729	0.159	0.752
AGE2 BY SL4	**-1.112**	0.055	0.559	**1.359**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY SL1	-0.104	-0.680	0.472	0.901
DENOM2 BY SL2	0.066	-0.460	0.592	1.068
DENOM2 BY SL3	**0.739**	0.281	1.197	**2.094**
DENOM2 BY SL4	**0.665**	0.197	1.133	**1.944**
SES (ref cat=Middle class)				
Working class - SES2 BY SL1	**2.537**	1.895	3.179	**12.642**
SES2 BY SL2	**-1.993**	-2.675	-1.311	**0.136**
SES2 BY SL3	**-2.760**	-3.382	-2.138	**0.063**
SES2 BY SL4	**-2.125**	-2.757	-1.493	**0.119**
DRINKING STATUS (ref cat=Abstainers)				
Drinkers - DS2 BY SL1	**1.481**	0.825	2.137	**4.397**
DS2 BY SL2	-0.103	-0.895	0.689	0.902
DS2 BY SL3	**-0.761**	-1.431	-0.091	**0.467**
DS2 BY SL4	**-1.147**	-1.825	-0.469	**0.318**
AGE2 BY DS2 BY SL1	**1.364**	1.032	1.696	**3.912**
SEX2 BY DS2 BY SL1	**-0.595**	-0.893	-0.297	**0.552**

School leaving ages: SL1: 16 SL2 17
SL3: 18 SL4: Undecided

Table 5.X b: Predictors (including smoking status) of age at which respondent is intending to leave school (base=16 years old)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
SCHOOL LEAVING AGE (ref cat=SL1)				
SL2	**3.459**	2.003	5.215	**31.785**
SL3	**3.629**	1.933	5.325	**37.675**
SL4	**3.325**	1.613	5.037	**27.799**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY SL1	**1.279**	-0.073	2.631	**3.593**
CO2 BY SL2	-3.141	-4.645	-1.637	0.043
CO2 BY SL3	-0.861	-2.199	0.477	0.423
CO2 BY SL4	-0.410	-1.770	0.950	0.664
GENDER (ref cat=Male)				
Female - SEX2 BY SL1	**-2.342**	-3.972	-0.712	**0.096**
SEX2 BY SL2	**1.968**	0.276	3.660	**7.156**
SEX2 BY SL3	**2.381**	0.771	3.991	**10.816**
SEX2 BY SL4	**1.630**	0.554	2.706	**5.104**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY SL1	-0.416	-1.614	0.782	0.660
AGE2 BY SL2	0.335	-0.985	1.655	1.398
AGE2 BY SL3	0.527	-0.701	1.755	1.694
AGE2 BY SL4	**-0.692**	-1.948	0.564	**0.501**
SES (ref cat=Middle class)				
Working class - SES2 BY SL1	**2.318**	0.540	4.096	**10.155**
SES2 BY SL2	**-3.680**	-5.602	-1.758	**0.025**
SES2 BY SL3	**-2.566**	-4.386	-0.746	**0.077**
SES2 BY SL4	**-2.070**	-3.904	-0.236	**0.126**
SMOKING STATUS (ref cat=Non-smokers)				
Smokers - SM2 BY SL1	**-2.632**	-3.742	-1.522	**0.072**
SM2 BY SL2	-0.693	-1.745	0.683	0.500
SM2 BY SL3	**-2.736**	-3.976	-1.496	**0.065**
SM2 BY SL4	**-1.170**	-2.040	-0.300	**0.310**
CO2 BY SM2 BY SL1	**0.610**	0.248	0.972	**1.840**
AGE2 BY SEX2 BY SL1	**1.630**	0.554	2.706	**5.104**
AGE2 BY SEX2 BY SL2	**-1.540**	-2.716	-0.364	**0.214**
AGE2 BY SEX2 BY SL3	**-1.547**	-2.615	-0.479	**0.213**
AGE2 BY SEX2 BY SL4	**-1.623**	-2.723	-0.523	**0.197**
AGE2 BY SM2 BY SL1	**1.284**	0.044	2.524	**3.611**
AGE2 BY SM2 BY SL3	**1.884**	0.498	3.270	**6.580**

School leaving ages: SL1: 16 SL2 17 SL3: 18 SL4: Undecided

Table 5.X c: Predictors (including drug use status) of age at which respondent is intending to leave school (base=16 years old)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
SCHOOL LEAVING AGE (ref cat=SL1)				
SL2	**4.067**	2.435	5.699	**58.382**
SL3	**4.670**	3.082	6.258	**106.698**
SL4	**4.175**	2.565	5.785	**65.040**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY SL1	**1.144**	0.008	2.280	**3.140**
CO2 BY SL2	**-3.165**	-4.647	-1.683	**0.042**
CO2 BY SL3	**-0.950**	-1.844	-0.056	**0.387**
CO2 BY SL4	**-0.425**	-0.777	-0.073	**0.654**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY SL1	**-0.428**	-0.809	-0.048	**0.652**
AGE2 BY SL2	0.153	-0.413	0.719	1.165
AGE2 BY SL3	0.038	-0.458	0.534	1.083
AGE2 BY SL4	**-0.931**	-1.435	-0.427	**0.394**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY SL1	1.207	-0.123	2.537	3.343
DENOM2 BY SL2	**-1.375**	-2.747	-0.003	**0.253**
DENOM2 BY SL3	-0.477	-1.795	0.841	0.621
DENOM2 BY SL4	-0.471	-1.807	0.865	0.624
SES (ref cat=Middle class)				
Working class - SES2 BY SL1	**2.811**	1.185	4.437	**16.627**
SES2 BY SL2	**-3.609**	-5.299	-1.919	**0.027**
SES2 BY SL3	**-3.443**	-5.077	-1.809	**0.032**
SES2 BY SL4	**-2.488**	-4.146	-0.840	**0.083**
DRUG USE STATUS (ref cat=Non-users)				
Users - DG2 BY SL1	-0.174	-0.720	0.372	0.840
DG2 BY SL2	**-1.043**	-1.609	-0.477	**0.352**
DG2 BY SL3	**-1.477**	-1.973	-0.981	**0.228**
DG2 BY SL4	**-1.208**	-1.720	-0.696	**0.299**
CO2 BY AGE2 BY SL1	**0.478**	0.138	0.818	**1.613**
AGE2 BY DG2 BY SL1	**1.012**	0.646	1.378	**2.751**
SES2 BY DG2 BY SL1	**0.344**	0.090	0.598	**1.411**

School leaving ages: SL1: 16 SL2 17
SL3: 18 SL4: Undecided

Table 5.XI a: Loglinear regression of proposed career after finishing school - including drinking status (base=further education)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
PLANS ON LEAVING SCHOOL (ref cat=PLAN1)				
PLAN2	**1.812**	1.330	2.294	**3.261**
PLAN3	**1.134**	0.572	1.696	**3.108**
COUNTRY (ref cat=Scotland)				
N. Ireland -CO2 BY PLAN1	**0.717**	0.389	1.045	**2.048**
GENDER (ref cat=Male)				
Female - SEX2 BY PLAN1	**0.551**	0.117	0.985	**1.735**
SEX2 BY PLAN2	-0.293	-0.611	0.025	0.746
SEX2 BY PLAN3	**-0.749**	-1.165	-0.333	**0.473**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY PLAN1	-0.087	-0.545	0.411	0.917
AGE2 BY PLAN2	**-1.549**	-1.935	-1.163	**0.212**
AGE2 BY PLAN3	**-1.977**	-2.455	-1.499	**0.138**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY PLAN1	**0.591**	0.237	0.945	**1.806**
SES (ref cat=Middle class)				
Working class - SES2 BY PLAN1	**-0.690**	-1.040	-0.340	**0.502**
SES2 BY PLAN2	**1.080**	0.732	1.428	**2.945**
SES2 BY PLAN3	**0.785**	0.355	1.215	**2.192**
DRINKING STATUS (ref cat=Abstainers)				
Drinkers - DS2 BY PLAN1	**0.909**	0.371	1.447	**2.482**
CO2 BY AGE2 BY PLAN1	**0.348**	0.098	0.598	**1.416**
CO2 BY DS2 BY PLAN1	**-0.443**	-0.751	-0.135	**0.642**
AGE2 BY DS2 BY PLAN1	**1.539**	1.191	1.887	**4.660**
SEX2 BY DENOM2 BY PLAN1	**0.415**	0.163	0.667	**1.514**
SEX2 BY DS2 BY PLAN1	**-0.611**	-0.907	-0.315	**0.543**

Plans on leaving school: PLAN1: Further education
PLAN2: Job
PLAN3: No plans

Table 5.XI b: Loglinear regression of proposed career after finishing school - including smoking status (base=further education)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
PLANS ON LEAVING SCHOOL (ref cat=PLAN1)				
PLAN2	**1.890**	1.520	2.260	**6.619**
PLAN3	**0.997**	0.575	1.419	**2.710**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY PLAN1	**0.606**	0.318	0.894	**1.833**
GENDER (ref cat=Male)				
Female - SEX2 BY PLAN1	0.035	-0.323	0.393	1.036
SEX2 BY PLAN2	-0.231	-0.549	0.087	0.794
SEX2 BY PLAN3	**-0.560**	-1.007	-0.187	**0.550**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY PLAN1	**0.951**	0.579	1.323	**2.588**
AGE2 BY PLAN2	**-1.534**	1.333	2.981	**0.216**
AGE2 BY PLAN3	-1.958	-0.086	0.410	0.141
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY PLAN1	**0.918**	0.658	1.178	**2.504**
SES (ref cat=Middle class)				
Working class - SES2 BY PLAN1	**-0.822**	-1.264	-0.380	**0.440**
SES2 BY PLAN2	**1.233**	0.865	1.601	**3.432**
SES2 BY PLAN3	**0.984**	0.534	1.434	**2.675**
SMOKING STATUS (ref cat=Non-smokers)				
Smokers - SM2 BY PLAN1	**-3.585**	-4.441	-2.682	**0.028**
CO2 BY SES2 BY PLAN1	**-0.462**	-0.732	-0.192	**0.630**
CO2 BY SM2 BY PLAN1	0.039	-0.539	0.617	1.040
AGE2 BY SM2 BY PLAN1	**2.157**	1.333	2.981	**8.645**
SES2 BY SM2 BY PLAN1	**1.408**	0.472	2.344	**4.088**
CO2 BY SES2 BY SM2 BY PLAN1	**0.829**	0.111	1.547	**2.291**

Plans on leaving school: PLAN1: Further education
PLAN2: Job
PLAN3: No plans

Table 5.XI c: Loglinear regression of proposed career after finishing school - including drug use status (base=further education)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
PLANS ON LEAVING SCHOOL (ref cat=PLAN1)				
PLAN2	**1.736**	1.374	2.098	**5.675**
PLAN3	**0.454**	0.026	0.882	**1.575**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY PLAN1	**0.275**	0.021	0.529	**1.317**
CO2 BY PLAN2	0.178	-0.166	0.522	1.195
CO2 BY PLAN3	**0.737**	0.315	1.159	**2.090**
GENDER (ref cat=Male)				
Female - SEX2 BY PLAN1	0.221	-0.005	0.437	1.247
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY PLAN1	**0.588**	0.186	0.990	**1.800**
AGE2 BY PLAN2	**-1.377**	-1.755	-0.999	**0.252**
AGE2 BY PLAN3	**-1.503**	-1.949	-1.057	**0.222**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY PLAN1	**0.944**	0.726	1.162	**2.570**
SES (ref cat=Middle class)				
Working class - SES2 BY PLAN1	**-0.976**	-1.352	-0.600	**0.377**
SES2 BY PLAN2	**1.056**	0.692	1.420	**2.875**
SES2 BY PLAN3	**0.612**	0.178	1.046	**1.844**
DRUG USING STATUS (ref cat=Non-users)				
Users - DG2 BY PLAN1	**-1.426**	-1.724	-1.128	**0.240**
CO2 BY AGE2 BY PLAN1	**0.297**	0.049	0.545	**1.346**
AGE2 BY SEX2 BY PLAN1	-0.060	-0.356	0.236	0.942
AGE2 BY DG2 BY PLAN1	**1.030**	0.680	1.380	**2.801**
SEX2 BY DG2 BY PLAN1	**-1.562**	-2.114	-1.010	**0.210**
SES2 BY DG2 BY PLAN1	**0.716**	0.454	0.978	**2.046**
AGE2 BY SEX2 BY DG2 BY PLAN1	**1.349**	0.699	1.999	**3.854**

Plans on leaving school: PLAN1: Further education
PLAN2: Job
PLAN3: No plans

Table 5.XII: Results of logistic regression analysis on experience of school-based alcohol education (odds ratios=experienced vs not experienced)- males only

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2	**0.433**	0.097	0.769	**1.542**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2	**1.833**	1.289	2.377	**6.253**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/non-denominational - DENOM2	**0.632**	0.200	1.064	**1.881**
DRINKER STATUS (ref cat=abstainers)				1
Light/Moderate drinkers - DS2	0.552	-0.146	1.250	1.737
Heavy drinkers - DS3	**1.692**	0.132	3.252	**5.430**
CO2 BY DS2	0.272	-0.700	1.244	1.313
CO2 BY DS3	**-1.640**	-3.098	-0.182	**0.194**

Table 5.XIII: Results of logistic regression analysis on experience of school-based alcohol education (odds ratios=experienced vs not experienced) - females only

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2	**1.429**	0.611	2.247	**4.174**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2	0.970	-0.132	2.072	2.638
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/Non-denominational - DENOM2	**0.972**	0.066	1.878	**2.643**
SES (ref cat=Middle Class)				1
Working Class - SES2	-0.418	-1.310	0.474	0.658
DRINKER STATUS (ref cat=abstainers)				1
Light/Moderate drinkers - DS2	**0.601**	0.081	1.121	**1.824**
Heavy drinkers - DS3	**0.890**	0.052	1.728	**2.435**
CO2 BY DENOM2	**-1.285**	-2.387	-0.183	**0.277**
AGE2 BY DENOM2	0.815	-0.615	2.245	2.259
AGE2 BY SES2	**2.649**	0.309	4.989	**14.140**
DENOM2 BY SES2	0.463	-0.657	1.583	1.589
AGE2 BY DENOM2 BY SES2	**-3.523**	-5.591	-0.555	**0.030**

Table 5.XV: Results of logistic regression analysis on extent of school-based drug education (odds ratios=experienced vs not experienced)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2	**1.008**	0.256	1.760	**2.740**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2	**0.972**	0.204	1.740	**2.643**
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/Non-denominational - DENOM2	**0.927**	0.271	1.583	**2.527**
SES (ref cat=Middle Class)				1
Working Class - SES2	0.486	-0.240	1.212	1.626
CO2 BY DENOM2	**-1.212**	-2.146	-0.278	**0.298**
CO2 BY SES2	**-1.667**	-2.627	-0.707	**0.189**
AGE2 BY SES2	**1.290**	0.616	1.964	**3.633**
DENOM2 BY SES2	-0.717	-1.585	0.151	0.488
CO2 BY DENOM2 BY SES2	**1.968**	0.732	3.204	**7.156**

Table 5.XIV: Logistic regression analysis of extent of smoking school-based education (odds ratios=experienced vs not experienced)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2	0.011	-0.387	0.409	1.011
GENDER (ref cat=Males)				
Females - SEX2	-0.077	-0.557	0.403	0.926
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2	**0.966**	0.252	1.680	**2.627**
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/Non-denominational - DENOM2	**0.909**	0.333	1.485	**2.482**
SES (ref cat=Middle Class)				1
Working Class - SES2	-0.508	-1.040	0.024	0.602
SMOKING STATUS (ref cat=Non-smokers)				
Smokers - SM2	**1.146**	0.088	2.204	**3.146**
CO2 BY AGE2	**0.822**	0.010	1.634	**2.275**
DENOM2 BY SEX2	**1.014**	0.318	1.710	**2.757**
DENOM2 BY SES2	**-0.742**	-1.432	-0.052	**0.476**

Table 5.XVII: Loglinear regression analysis of extent of educational information, clustered (base=multiple sources)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
INFORMATION CATEGORY(ref cat=INFO1)				
INFO2	**1.125**	0.281	1.969	**3.080**
INFO3	**2.785**	2.047	3.523	**16.120**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY INFO1	**1.158**	0.532	1.784	**3.184**
CO2 BY INFO2	-0.712	-1.470	0.046	0.491
CO2 BY INFO3	**-1.147**	-1.809	-0.485	**0.318**
GENDER (ref cat=Males)				
Females - SEX2 BY INFO2	**-0.716**	-1.214	-0.218	**0.489**
SEX2 BY INFO3	0.191	-0.291	0.673	1.210
SEX2 BY INFO3	**0.633**	0.195	1.071	**1.883**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY INFO1	**1.133**	0.609	1.657	**3.105**
AGE2 BY INFO2	**-0.665**	-1.295	-0.035	**0.514**
AGE2 BY INFO3	**-1.980**	-2.534	-1.426	**0.138**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY INFO1	**1.870**	1.124	2.616	**6.488**
DENOM2 BY INFO2	-0.762	-1.662	0.108	0.467
DENOM2 BY INFO3	**-1.818**	-2.602	-1.054	**0.162**
SES (ref cat=Middle class)				
Working class - SES2 BY INFO1	0.471	-0.245	1.187	1.602
SES2 BY INFO2	-0.621	-1.449	0.207	0.537
SES2 BY INFO3	**-0.910**	-1.652	-0.168	**0.403**
CO2 BY DENOM2 BY INFO1	**-0.725**	-1.375	-0.075	**0.484**
CO2 BY DENOM2 BY INFO2	0.383	-0.393	1.159	1.467
CO2 BY DENOM2 BY INFO3	**1.064**	0.382	1.746	**2.898**

INFORMATION CATEGORY: INFO1 'Multiple sources'
INFO2 'School dominated'
INFO3 'Few sources'

Table 6.I: Loglinear regression analysis of amount of weekly income (base=up to £5)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
AMOUNT RECEIVED (ref cat=MON1)				
MON2	**-1.304**	-1.682	-0.926	**0.271**
MON3	**-2.894**	-3.454	-2.334	**0.055**
GENDER (ref cat=Male)				
Female - SEX2 BY SPD1	**0.390**	0.072	0.708	**1.477**
SEX2 BY MON2	**0.203**	0.005	0.401	**1.225**
SEX2 BY MON3	**-0.343**	-0.683	-0.003	**0.710**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY MON1	**-1.674**	-2.164	-1.184	**0.187**
AGE2 BY MON2	**1.434**	1.120	1.748	**4.195**
AGE2 BY MON3	**2.336**	1.962	2.710	**10.340**
SES (ref cat=Middle class)				
Working class - SES2 BY MON1	-0.186	-0.490	0.118	0.830
SES2 BY MON2	0.165	-0.135	0.465	1.179
SES2 BY MON3	**0.843**	0.495	1.191	**2.323**
DRINKER STATUS (ref cat=abstainers)				
Drinkers - DS2 BY MON1	**0.770**	0.458	1.082	**2.160**
DS2 BY MON2	**0.593**	0.243	0.943	**1.809**
DS2 BY MON3	**1.267**	0.761	1.773	**3.550**
SEX2 BY DS2 BY MON1	**-0.796**	-1.158	-0.434	**0.451**
AGE2 BY SEX2 BY MON1	-0.401	-1.011	0.209	0.670
AGE2 BY SES2 BY MON1	**-0.316**	-0.594	-0.098	**0.729**
AGE2 BY DS2 BY MON1	**0.698**	0.212	1.184	**2.010**
AGE2 BY BY SEX2 BY DS2 BY MON1	**0.816**	0.154	1.478	**2.261**

INCOME CATEGORIES:
MON1: 'Up to £5'
MON2: '£5 to £10'
MON3: '£10 and over'

Table 6.II: Results of logistic regression analysis on part-time job (odds ratios=working part-time vs no part-time job)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	**0.740**	0.296	1.184	**2.096**
GENDER (ref cat=Male)				1
Female - SEX2	**-1.371**	-1.929	-0.813	**0.254**
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**0.377**	0.007	0.747	**1.458**
SES (ref cat=Middle class)				1
Working class - SES2	**1.012**	0.562	1.462	**2.755**
DRINKING STATUS (ref cat=abstainers)				1
Drinkers - DS2	**0.939**	0.441	1.397	**2.558**
CO2 BY SES2	**-0.828**	-1.426	-0.230	**0.437**
SEX2 BY AGE2	**1.170**	0.498	1.842	**3.226**

Table 6.III: Results of loglinear regression analysis of weekly expenditure on alcohol (base=nothing)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
AMOUNT SPENT (ref cat=SPD1)				
SPD2	**-2.234**	-2.792	-1.636	**0.107**
SPD3	**-3.470**	-4.244	-2.696	**0.031**
SPD4	**-5.070**	-6.172	-3.968	**0.006**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY SPD1	0.208	-0.068	0.484	1.231
CO2 BY SPD2	**0.533**	0.127	0,939	**1.704**
CO2 BY SPD3	**0.517**	0.087	0.947	**1.677**
CO2 BY SPD4	**1.078**	0.460	1.696	**2.938**
GENDER (ref cat=Male)				
Female - SEX2 BY SPD1	**-0.449**	-0.771	-0.127	**0.638**
SEX2 BY SPD2	**-0.699**	-1.131	-0.267	**0.497**
SEX2 BY SPD3	-0.190	-0.642	0.262	0.827
SEX2 BY SPD4	**-0.924**	-1.562	-0.286	**0.397**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY SPD1	**-0.319**	-0.575	-0.063	**0.727**
AGE2 BY SPD2	**1.060**	0.634	1.486	**2.886**
AGE2 BY SPD3	**2.496**	1.832	3.160	**12.134**
AGE2 BY SPD4	**2.587**	1.703	3.471	**13.290**
SES (ref cat=Middle class)				
Working class - SES2 BY SPD1	0.177	-0.103	0.457	1.194
SES2 BY SPD2	0.315	-0.089	0.719	1.370
SES2 BY SPD3	**0.446**	0.002	0.890	**1.562**
SES2 BY SPD4	**1.254**	0.632	1.876	**3.504**
DENOMINATION(ref cat= Roman Catholic)				
Protestant/Non-denominational - DENOM2 BY SPD1	**0.863**	0.567	1.159	**2.370**
DENOM2 BY SPD2	-0.091	-0.507	0.325	0.913
DENOM2 BY SPD3	**-0.647**	-1.077	-0.217	**0.524**
DENOM2 BY SPD4	-0.129	-0.709	0.451	0.879
CO2 BY SEX2 BY SPD1	**-0.395**	-0.677	-0.113	**0.674**
CO2 BY DENOM2 BY SPD1	**-0.388**	-0.676	-0.100	**0.678**
SEX2 BY AGE2 BY SPD1	**0.501**	0.201	0.801	**1.650**
SEX2 BY DENOM2 BY SPD1	**0.434**	0.142	0.726	**1.543**
AGE2 BY SES2 BY SPD1	**-0.341**	-0.637	-0.045	**0.711**
SES2 BY DENOM2 BY SPD1	**-0.457**	-0.741	-0.173	**0.633**

Amount Spent	SPD1	'Nothing'
	SPD2	'Less than £5'
	SPD3	'Between £5 and £10'
	SPD4	'Over £10'

Table 6.IV: Results of loglinear regression analysis of weekly expenditure on tobacco (base=nothing)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
AMOUNT SPENT (ref cat=SPD1)				
SPD2	-0.302	-1.376	0.772	0.739
SPD3	**-2.446**	-3.854	-1.038	**0.087**
SPD4	**-3.956**	-5.866	-2.046	**0.019**
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2 BY SPD1	**1.069**	0.585	1.553	**2.912**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY SPD1	0.255	-0.803	1.313	1.290
AGE2 BY SPD2	**1.742**	0.756	2.728	**5.709**
AGE2 BY SPD3	**3.236**	2.016	4.456	**25.432**
AGE2 BY SPD4	**3.205**	1.751	4.659	**24.656**
DENOMINATION(ref cat=Roman Catholic)				
Protestant/Non-denominational - DENOM2 BY SPD1	0.202	-0.530	0.934	1.224
SES (ref cat=Middle class)				
Working class - SES2 BY SPD1	**1.767**	0.829	2.705	**5.853**
SES2 BY SPD2	-0.477	-1.497	0.543	0.621
SES2 BY SPD3	0.887	-0.227	2.001	2.428
SES2 BY SPD4	**1.930**	0.396	3.464	**6.890**
CO2 BY DENOM2 BY SPD1	**-0.912**	-1.556	-0.268	**0.402**
AGE2 BY DENOM2 BY SPD1	**0.509**	0.081	0.937	**1.664**
AGE2 BY SES2 BY SPD1	**-1.677**	-2.701	-0.653	**0.187**

Amount Spent	SPD1	'Nothing'
	SPD2	'Less than £5'
	SPD3	'Between £5 and £10'
	SPD4	'Over £10'

Table 6.V: Results of loglinear regression analysis of weekly expenditure on other drugs (base=nothing)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
AMOUNT SPENT (ref cat=SPD1)				
SPD2	**-2.547**	-3.123	-1.971	**0.078**
SPD3	**-1.934**	-2.370	-1.498	**0.145**
SPD4	**-2.116**	-2.590	-1.642	**0.121**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY SPD1	**0.624**	0.280	0.968	**1.866**
GENDER (ref cat=Male)				
Female - SEX2 BY SPD1	**-1.361**	-1.891	-0.831	**0.256**
SEX2 BY SPD2	-0.794	-1.958	0.370	0.452
SEX2 BY SPD3	**-1.002**	-1.946	-0.058	**0.367**
SEX2 BY SPD4	-0.665	-1.573	0.243	0.514
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY SPD1	**0.542**	0.264	0.820	**1.719**
DENOMINATION(ref cat=Roman Catholic)				
Protestant/Non-denominational - DENOM2 BY SPD1	**1.300**	0.860	1.740	**3.669**
SES (ref cat=Middle class)				
Working class - SES2 BY SPD1	**0.838**	0.482	1.194	**2.312**
CO2 BY DENOM2 BY SPD1	**-0.820**	-1.264	-0.376	**0.440**
AGE2 BY SEX2 BY SPD1	**1.286**	0.710	1.862	**3.618**
SES2 BY DENOM2 BY SPD1	**-0.897**	-1.351	-0.443	**0.408**

Amount Spent	SPD1	'Nothing'
	SPD2	'Less than £5'
	SPD3	'Between £5 and £10'
	SPD4	'Over £10'

Table 6.VI: Intercorrelations between leisure activities and between leisure activities and quantity of alcohol consumed on last drinking occasion (males only)

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
Assn (a)	X													
Cinema (b)	NS	X												
Clshop (c)	NS	**0.19**	X											
Friends (d)	NS	**0.22**	**0.25**	X										
Fwsport (e)	NS	**0.15**	**0.22**	**0.18**	X									
Godrink (f)	NS	**0.12**	**0.15**	**0.15**	NS	X								
Music (g)	**0.23**	NS	NS	NS	NS	**-.11**	X							
Party (h)	NS	**0.24**	**0.40**	**0.28**	**0.21**	**0.40**	NS	X						
Pub (i)	NS	NS	**0.18**	**0.11**	NS	**0.37**	NS	**0.35**	X					
Pysport (j)	NS	**0.15**	**0.16**	**0.20**	**0.26**	NS	NS	NS	NS	X				
Recshop (k)	NS	**0.29**	**0.46**	**0.22**	**0.21**	**0.26**	NS	**0.39**	**0.24**	NS	X			
Video (l)	NS	**0.30**	**0.19**	**0.33**	NS	NS	**-.10**	**0.18**	NS	NS	**0.18**	X		
Youth (m)	**0.18**	**0.15**	**0.13**	**0.14**	NS	NS	NS	**0.16**	NS	NS	NS	**0.10**	X	
Drinker Status (n)	NS	NS	**0.13**	**0.16**	**0.53**	NS	NS	**0.33**	**0.35**	NS	**0.22**	NS	NS	X

CODING

Leisure activities:
Never
Once or twice a year
3 or 4 times a year
Once a month
Twice a month
Once a week or more

Drinker status:
Abstainer
Light Drinker
Heavy Drinker

Table 6.VII: Intercorrelations between leisure activities and between leisure activities and quantity of alcohol consumed on last drinking occasion (females only)

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n
Assn (a)	X													
Cinema (b)	NS	X												
Clshop (c)	NS	**0.29**	X											
Friends (d)	NS	**0.14**	**0.22**	X										
Fwsport (e)	**0.12**	**0.17**	NS	NS	X									
Godrink (f)	**-.16**	NS	NS	**0.12**	NS	X								
Music (g)	**0.24**	NS	NS	NS	NS	**-.23**	X							
Party (h)	**-.12**	**0.11**	**0.18**	**0.18**	NS	**0.37**	**-.15**	X						
Pub (i)	**-.14**	NS	NS	NS	**0.11**	**0.38**	NS	**0.36**	X					
Pysport (j)	**0.20**	**0.13**	NS	NS	**0.27**	**-.10**	**0.16**	NS	NS	X				
Recshop (k)	NS	**0.34**	**0.46**	**0.17**	**0.10**	**0.16**	NS	**0.28**	NS	NS	X			
Video (l)	NS	**0.27**	**0.23**	**0.25**	NS	NS	**-.14**	**0.13**	NS	NS	**0.22**	X		
Youth (m)	**0.25**	NS	NS	**0.19**	NS	**-.12**	NS	NS	**-.18**	NS	NS	**0.18**	X	
Drinker Status (n)	**-.21**	NS	NS	**0.13**	NS	**0.54**	**-.23**	**0.30**	**0.39**	**-.12**	**0.14**	NS	**-.15**	X

CODING

Leisure activities:
Never
Once or twice a year
3 or 4 times a year
Once a month
Twice a month
Once a week or more

Drinker status:
Abstainer
Light Drinker
Heavy Drinker

Table 6.VIII: Logistic regression analysis of leisure activities, clustered (odds ratios=Active Joiners vs Non-joiners) - including drinking status

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	**0.495**	0.139	0.851	**1.639**
GENDER (ref cat=Male)				1
Female - SEX2	0.232	-0.785	0.685	1.299
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/non-denom - DENOM2	**0.404**	0.007	0.747	**1.458**
SES (ref cat= Middle class/grammar)				1
Working class/secondary - SES2	**-0.292**	-0.548	-0.036	**0.747**
DRINKING STATUS (ref cat=abstainers)				1
Drinkers - DS2	**0.943**	0.477	1.430	**2.571**
SEX2 BY DS2	**-0.737**	-1.352	-0.117	**0.478**

Table 6.IX: Logistic regression analysis of leisure activities, clustered (odds ratios=Active Joiners vs Non-joiners) - including smoking status

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	**0.655**	0.371	0.939	**1.925**
GENDER (ref cat=Male)				1
Female - SEX2	0.191	-0.369	0.751	1.211
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**-0.331**	-0.605	-0.057	**0.718**
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/non-denom - DENOM2	**0.420**	0.152	0.688	**1.522**
SES (ref cat= Middle class/grammar)				1
Working class/secondary - SES2	**-0.343**	-0.607	-0.079	**0.710**
DRINKING STATUS (ref cat=abstainers)				1
Drinkers - DS2	**0.949**	0.463	1.435	**2.584**
SMOKING STATUS (ref cat=non-smokers)				1
Smokers - SM2	**0.742**	0.202	1.282	**2.101**
SEX2 BY DS2	**-0.689**	-1.321	-0.057	**0.502**
CO2 BY SM2	**-1.129**	-1.871	-0.387	**0.323**

Table 6.X: Logistic regression analysis of leisure activities, clustered (odds ratios=Active Joiners vs Non-joiners) - including drug use status

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	**0.734**	0.370	1.098	**2.083**
GENDER (ref cat=Male)				1
Female - SEX2	0.150	-0.550	0.250	1.161
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**-0.419**	-0.703	-0.135	**0.658**
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/non-denom - DENOM2	**0.442**	0.172	0.712	**1.555**
SES (ref cat= Middle class/grammar)				1
Working class/secondary - SES2	**-0.439**	-0.701	-0.177	**0.645**
DRINKING STATUS (ref cat=abstainers)				1
Drinkers - DS2	**0.470**	0.136	0.804	**1.600**
DRUG USE STATUS (ref cat=never used)				1
Used - DG2	**1.069**	0.677	1.461	**2.915**
SEX2 BY DS2	**-0.671**	-1.249	-0.093	**0.511**

Table 6.XI: Results of logistic regression analysis on church attendees vs non-attendees

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	**0.721**	0.389	1.053	**2.056**
GENDER (ref cat=Male)				1
Female - SEX2	**1.207**	0.705	1.709	**3.343**
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	-0.130	-0.546	0.286	0.878
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/non-denominational - DENOM2	**-1.770**	-2.180	-1.360	**0.170**
SES (ref cat=Middle class)				1
Working class - SES2	**-1.238**	-1.572	-0.904	**0.290**
SEX2 BY AGE2	**-0.898**	-1.564	-0.232	**0.407**

Table 6.XII: Results of log-linear analysis of church attendance, incorporating all categories (base=more than once a week)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
ATTENDANCE CATEGORY (ref cat=ATTEND1)				
ATTEND2	**2.217**	1.315	3.119	**9.180**
ATTEND3	-0.185	-1.315	0.945	0.831
ATTEND4	-0.159	-1.209	0.891	0.853
ATTEND5	-0.923	-2.003	0.157	0.397
ATTEND6	-0.791	-1.855	0.273	0.453
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY ATTEND1	**0.515**	0.093	0.937	**1.674**
CO2 BY ATTEND2	**0.689**	0.155	1.223	**1.992**
CO2 BY ATTEND3	-0.039	-1.409	1.331	0.962
CO2 BY ATTEND4	**-1.666**	-3.064	-0.268	**0.189**
CO2 BY ATTEND5	**-0.697**	-1.287	-0.107	**0.498**
CO2 BY ATTEND6	**-1.119**	-1.813	-0.425	**0.327**
GENDER (ref cat=Males)				
Females - SEX2 BY ATTEND1	-0.236	-0.746	0.274	0.790
SEX2 BY ATTEND2	0.301	-0.191	0.793	1.351
SEX2 BY ATTEND3	0.120	-0.498	0.738	1.127
SEX2 BY ATTEND4	0.269	-0.295	0.833	1.309
SEX2 BY ATTEND5	**0.679**	0.123	1.235	**1.972**
SEX2 BY ATTEND6	-0.205	-0.745	0.335	0.815
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY ATTEND1	**-1.275**	-2.397	-0.153	**0.279**
AGE2 BY ATTEND2	0.839	-0.329	2.007	2.314
AGE2 BY ATTEND3	**1.128**	0.482	1.774	**3.089**
AGE2 BY ATTEND4	**1.338**	0.138	2.538	**3.811**
AGE2 BY ATTEND5	**1.770**	0.594	2.946	**5.871**
AGE2 BY ATTEND6	**1.566**	0.404	2.728	**4.787**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY ATTEND1	0.600	-0.314	1.514	1.822
DENOM2 BY ATTEND2	**-1.123**	-2.093	-0.153	**0.325**
DENOM2 BY ATTEND3	0.108	-1.010	1.226	1.114
DENOM2 BY ATTEND4	**1.018**	0.060	1.976	**2.768**
DENOM2 BY ATTEND5	**1.873**	0.809	2.937	**6.508**
DENOM2 BY ATTEND6	**2.089**	1.041	3.317	**8.077**
SES (ref cat=Middle class)				
Working class - SES2 BY ATTEND1	-0.154	-1.110	0.802	0.857
SES2 BY ATTEND2	-0.540	-1.530	0.450	0.583
SES2 BY ATTEND3	0.701	-0.423	1.825	2.016
SES2 BY ATTEND4	0.638	-0.382	1.658	1.893
SES2 BY ATTEND5	0.634	-0.364	1.632	1.885
SES2 BY ATTEND6	**1.502**	0.514	2.490	**4.491**

ATTENDANCE CATEGORY ATTEND1 '> 1 per wk' ATTEND4 'few times pa'
ATTEND2 'once a wk' ATTEND5 'special occn'
ATTEND3 '1 or 2 a mth' ATTEND6 'never'

Table 6.XIII: Results of logistic regression analysis on drinking vs abstaining (incorporating church attendance)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	**-0.802**	-1.538	-0.066	**0.448**
GENDER (ref cat=Male)				1
Female - SEX2	**-0.846**	-1.444	-0.248	**0.429**
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**1.953**	0.907	2.999	**7.050**
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/non-denominational - DENOM2	-0.024	-0.552	0.504	0.976
SES (ref cat=Middle class)				1
Working class - SES2	-0.234	-0.854	0.386	0.791
CHURCH ATTENDANCE (ref cat=Attendees)				1
Non-attendees - ATTEND2	0.318	-0.234	0.552	1.374
CO2 BY SEX2	**-0.587**	-1.027	-0.147	**0.556**
CO2 BY AGE2	-0.518	-1.516	0.480	0.596
CO2 BY DENOM2	**0.914**	0.228	1.600	**2.494**
CO2 BY SES2	0.034	-0.732	0.820	1.035
CO2 BY ATTEND2	**1.661**	0.383	2.939	**5.265**
SEX2 BY SES2	**0.725**	1.355	0.095	**2.065**
AGE2 BY SEX2	**0.832**	0.144	1.520	**2.298**
AGE2 BY SES2	**-1.148**	-2.184	-0.112	**0.317**
DENOM2 BY ATTEND2	**1.435**	0.241	2.629	**4.120**
CO2 BY AGE2 BY SES2	**1.700**	0.266	3.134	**5.474**

Table 6.XIV: Results of logistic regression analysis on 'ever taken a pledge not to drink' (odds ratios=taken a pledge vs not taken)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	**4.476**	3.412	5.540	**87.882**
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**-2.154**	-3.680	-0.628	**0.116**
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/non-denominational - DENOM2	**-1.064**	-1.920	-0.238	**0.345**
SES (ref cat=Middle class)				1
Working class - SES2	**0.974**	0.042	1.906	**2.649**
CO2 BY AGE2	**1.317**	0.023	2.611	**3.732**
CO2 BY DENOM2	**-2.642**	-3.728	-1.556	**0.071**
CO2 BY SES2	**-1.940**	-3.102	-0.778	**0.144**
AGE2 BY SES2	**1.086**	0.072	2.100	**2.962**

NB. drinker status and gender were also introduced into the model, but proved not to be significant.

Table 6.XVII: Results of logistic regression analysis on smoking vs not smoking (incorporating church attendance)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	-0.074	-1.658	1.510	0.929
GENDER (ref cat=Male)				1
Female - SEX2	0.035	-0.529	0.599	1.036
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**1.454**	0.818	2.218	**4.280**
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/non-denominational - DENOM2	**-0.660**	-1.062	-0.258	**0.517**
SES (ref cat=Middle Class)				1
Working Class - SES2	0.556	-0.018	1.130	1.744
CHURCH ATTENDANCE (ref cat=Attendees)				1
Non-attendees - ATTEND2	-1.862	-3.890	0.166	0.155
DRINKING STATUS (ref cat=Abstainers)				**1**
Drinkers - DRINK2	**1.307**	0.007	2.607	**3.695**
CO2 BY AGE2	**-0.751**	-1.469	-0.033	**0.472**
CO2 BY SEX2	**0.814**	0.066	1.572	**2.257**
CO2 BY SES2	**0.862**	0.090	1.634	**2.368**
CO2 BY ATTEND2	**3.015**	0.743	5.287	**20.389**
CO2 BY DRINK2	**2.460**	0.704	4.216	**11.705**
DRINK2 BY ATTEND2	**3.721**	1.685	5.757	**41.306**

Table 6.XVIII: Results of logistic regression analysis on ever used drugs vs not used drugs (incorporating church attendance)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
GENDER (ref cat=Male)				1
Female - SEX2	**-2.774**	-4.364	-1.184	**0.062**
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**0.873**	0.509	1.237	**2.394**
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/non-denominational - DENOM2	**-0.420**	-0.732	-0.108	**0.657**
SES (ref cat=Middle Class)				1
Working Class - SES2	**0.923**	0.585	1.261	**2.517**
CHURCH ATTENDANCE (ref cat=Attendees)				1
Non-attendees - ATTEND2	-1.089	-3.633	1.455	0.337
DRINKING STATUS (ref cat=Abstainers)				1
Drinkers - DRINK2	**1.229**	0.605	1.853	**3.418**
AGE2 BY SEX2	**1.076**	0.412	1.740	**2.933**
ATTEND2 BY SES2	**-0.731**	-1.417	-0.045	**0.481**
DRINK2 BY SEX2	**1.624**	0.040	3.208	**5.073**
DRINK2 BY ATTEND2	**3.624**	1.124	6.124	**37.487**

Table 6.IXX: Results of logistic regression analysis on membership of 'Free Drinkers' vs membership of 'Peer influenced'

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	-0.400	-0.958	0.158	0.670
GENDER (ref cat=Male)				1
Female - SEX2	**0.815**	0.287	1.343	**2.259**
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**-0.603**	-1.089	-0.117	**0.547**
CHURCH ATTENDANCE (ref cat=Attendees)				1
Non-attendees - ATTEND2	**0.622**	0.100	1.144	**1.863**
CO2 BY SEX2	**-0.740**	-1.400	-0.080	**0.477**
CO2 BY AGE2	**0.781**	0.127	1.435	**2.184**
SEX2 BY ATTEND2	**-0.958**	-1.770	-0.165	**0.384**

Table 6.XXI a: Results of logistic regression analysis on attitudes towards drinking - males only (odds ratios = approving/neutral vs disapproving)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	**0.775**	0.197	1.353	**2.171**
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**1.306**	0.246	2.366	**3.691**
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/non-denominational - DENOM2	-0.813	-1.955	0.329	0.444
CHURCH ATTENDANCE (ref cat= attendees)				1
Non-attenders - ATTEND2	-0.866	-3.200	1.468	0.421
DRINKER STATUS (ref cat=abstainers)				1
Light/Moderate drinkers - DS2	**0.369**	0.082	0.842	**1.446**
Heavy drinkers - DS3	**0.912**	0.076	1.748	**2.489**
CO2 BY DENOM2	**-0.962**	-1.746	-0.178	**0.382**
AGE2 BY ATTEND2	**-3.110**	-6.148	-0.072	**0.045**
DENOM2 BY ATTEND2	**3.686**	0.736	6.636	**39.885**
DS2 BY AGE2	-0.621	-1.785	0.543	0.537
DS3 BY AGE2	-0.823	-2.474	0.828	0.439
DS2 BY DENOM2	**1.281**	0.131	2.431	**3.600**
DS3 BY DENOM2	**1.078**	0.100	2.056	**2.939**
DS2 BY ATTEND2	1.165	-1.533	3.863	3.206
DS3 BY ATTEND2	-1.175	-4.803	2.453	0.309
DS2 BY AGE2 BY ATTEND2	**3.247**	0.043	6.451	**25.713**
DS3 BY AGE2 BY ATTEND2	21.130	-17.590	59.850	1.502

Table 6.XXI b: Results of logistic regression analysis on attitudes towards drinking - females only (odds ratios = approving/neutral vs disapproving)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	0.127	-0.757	1.011	1.135
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**1.905**	1.265	2.545	**6.719**
CHURCH ATTENDANCE (ref cat=attendees)				1
Non-attenders - ATTEND2	-0.324	-1.298	0.650	0.723
DRINKER STATUS (ref cat=abstainers)				1
Light/Moderate drinkers - DS2	0.584	-0.168	1.336	1.793
Heavy drinkers - DS3	0.150	-0.396	0.696	1.162
CO2 BY AGE 2	**-2.215**	-3.113	-1.317	**0.109**
AGE2 BY ATTEND2	**0.888**	0.272	1.504	**2.430**
DT2 BY CO2	**0.941**	0.025	1.857	**2.563**
DT3 BY CO2	**4.038**	2.248	5.828	**56.713**

Table 7.II: Demographic predictors of family details- (odds ratios = living with others vs living with mother and father)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2	0.082	-0.548	0.712	1.085
GENDER (ref cat=Male)				
Female - SEX2	-0.060	-0.730	0.610	0.942
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2	**0.638**	0.164	1.112	**1.893**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/non-denominational - DENOM2	**0.326**	0.006	0.646	**1.385**
SES (ref cat=Middle class)				
Working Class - SES2	**1.130**	0.164	1.112	**3.096**
CO2 BY SEX2	-0.482	-1.420	0.456	0.618
CO2 BY SES2	-0.594	-1.458	0.270	0.552
AGE2 BY SES2	**-1.074**	-1.706	-0.442	**0.342**
SEX2 BY SES2	0.102	-0.761	0.963	1.106
CO2 BY SEX2 BY SES2	**1.285**	0.033	2.537	**3.615**

Table 7.III: Results of logistic regression analysis on effects of domestic details on drinking behaviour (odds ratios=drinking vs abstaining).

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	**-0.966**	-1.716	-0.216	**0.380**
GENDER (ref cat=Males)				1
Females - SEX2	-0.614	-1.738	0.510	0.547
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**1.771**	0.545	2.997	**5.877**
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/Non-denom - DENOM2	**0.888**	0.010	1.766	**2.430**
SOCIO-ECONOMIC STATUS (ref cat=Middle class)				1
Working Class - SES2	-0.598	-1.332	0.136	0.550
FAMLIV1 (ref cat=both parents)				1
Other - FAMLIV2	0.458	-0.722	1.638	1.581
FAMDET1 (ref cat=small)				1
Medium - FAMDET2	0.595	-0.377	1.567	1.813
Large - FAMDET3	0.075	-1.159	1.309	1.078
CO2 BY AGE2	-0.078	-0.860	0.704	0.925
CO2 BY DENOM2	**1.042**	0.350	1.734	**2.835**
CO2 BY SES2	**0.792**	0.108	1.476	**2.208**
CO2 BY FAMLIV2	**-1.294**	-2.380	-0.208	**0.274**
AGE2 BY SEX2	**0.885**	0.189	1.581	**2.423**
AGE2 BY FAMLIV2	**-1.377**	-2.629	-0.125	**0.252**
SEX2 BY FAMDET2	-0.780	-2.010	0.450	0.458
SEX2 BY SES2	**0.708**	0.052	1.364	**2.030**
DENOM2 BY SEX2	-0.832	-2.010	0.346	0.435
DENOM2 BY FAMDET2	**-1.773**	-2.901	-0.645	**0.170**
DENOM2 BY FAMDET3	**-1.762**	-3.384	-0.140	**0.172**
FAMLIV2 BY FAMDET2	**2.013**	0.221	3.805	**7.486**
FAMLIV2 BY FAMDET3	**2.561**	0.311	4.811	**12.949**
CO2 BY FAMLIV2 BY AGE2	**2.190**	0.252	1.128	**8.935**
DENOM2 BY SEX2 BY FAMDET2	**1.792**	0.300	3.284	**6.001**

Table 7.IV: Results of logistic regression analysis on effects of domestic details on smoking behaviour (odds ratios=smoking vs not smoking).

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	-0.911	-1.975	0.153	0.402
GENDER (ref cat=Males)				1
Females - SEX2	-0.074	-0.352	0.184	0.929
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**1.579**	0.947	2.211	**4.850**
SES (ref cat=Middle class)				1
Working Class - SES2	**1.170**	0.792	1.548	**3.222**
DRINKING STATUS (ref cat=abstainers)				1
Drinkers - DR2	**2.420**	0.720	4.120	**11.246**
FAMDET1 (ref cat=small)				1
Medium - FAMDET2	0.036	-0.250	0.322	1.037
Large - FAMDET3	-0.264	-0.850	0.322	0.768
CO2 BY AGE2	**-0.792**	-1.582	-0.002	**0.453**
CO2 BY SEX2	**0.788**	0.054	1.522	**2.199**
CO2 BY FAMDET2	**0.843**	0.045	1.641	**2.232**
CO2 BY FAMDET3	**1.472**	0.100	2.844	**4.358**
CO2 BY DR2	**1.187**	0.179	2.195	**3.277**

Table 7.V: Results of logistic regression analysis on effects of domestic details on drug taking behaviour (odds ratios=used vs never used).

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
COUNTRY (ref cat=Scotland)				1
N. Ireland - CO2	-0.250	-0.660	0.160	0.779
GENDER (ref cat=Males)				1
Females - SEX2	**-2.731**	-4.269	-1.193	**0.065**
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**0.884**	0.518	1.250	**2.421**
SES (ref cat=Middle class)				1
Working Class - SES2	0.275	-0.243	0.793	1.317
DRINKER STATUS (ref cat=abstainers)				1
Drinkers - DR2	**1.634**	1.014	2.254	**5.124**
FAMLIV1 (ref cat=both parents)				1
Other - FAMLIV2	**0.645**	0.289	1.001	**1.906**
FAMDET1 (ref cat=small)				
Medium - FAMDET2	0.211	-0.211	0.633	1.235
Large - FAMDET3	-0.649	-1.573	0.275	0.523
CO2 BY SES2	**0.609**	0.027	1.191	**1.839**
AGE2 BY SEX2	**1.113**	0.445	1.781	**3.043**
DR2 BY SEX2	**1.484**	0.716	2.252	**4.411**
SES2 BY FAMDET3	**1.646**	0.526	2.766	**5.186**

Table 7.VI a: Loglinear regression analysis of effects of parents' drinking on consumption levels - males only

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
DRINKER STATUS (ref cat=DS1)				
DS2	**1.488**	1.068	1.908	**4.428**
DS3	**-2.288**	-3.104	-1.472	**0.101**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY DS1	0.271	-0.199	0.741	1.311
CO2 BY DS2	-0.051	-0.497	0.395	0.950
CO2 BY DS3	**0.618**	0.008	1.228	**1.855**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY DS1	**-1.178**	-1.652	-0.704	**0.308**
AGE2 BY DS2	**0.782**	0.308	1.256	**2.186**
AGE2 BY DS3	**2.768**	2.010	3.526	**15.927**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY DS1	**0.957**	0.653	1.261	**2.604**
SES (ref cat=Middle class)				
Working class - SES2 BY DS1	0.314	-0.138	0.766	1.369
SES2 BY DS2	-0.387	-0.825	0.041	0.679
SES2 BY DS3	**0.665**	0.129	1.201	**1.944**
MOTHER'S DRINKING STATUS (ref cat=Yes)				
No - MOTHER2 BY DS1	**-1.831**	-2.423	-1.239	**0.160**
MOTHER2 BY DS2	-0.483	-1.025	0.059	0.617
MOTHER2 BY DS3	**-0.682**	-1.230	-0.134	**0.506**
FATHER'S DRINKING STATUS (ref cat=Yes)				
No - FATHER2 BY DS1	**-2.607**	-3.293	-1.921	**0.074**
FATHER2 BY DS2	**-0.514**	-0.934	-0.094	**0.598**
FATHER2 BY DS3	0.087	-0.727	0.901	1.091
CO2 BY AGE2 BY DS1	**0.355**	0.007	0.703	**1.426**
CO2 BY DENOM2 BY DS1	**-0.784**	-1.122	-0.446	**0.457**
CO2 BY MOTHER2 BY DS1	**0.481**	0.035	0.927	**1.618**
DENOM2 BY SES2 BY DS1	**-0.493**	-0.823	-0.163	**0.611**
MOTHER2 BY FATHER2 BY DS1	**2.543**	2.019	3.067	**12.718**
MOTHER2 BY SES2 BY DS1	**0.537**	0.145	0.929	**1.711**

DRINKER STATUS: DS1 'Abstainers'
DS2 'Light/Moderate drinkers'
DS3 'Heavy drinkers'

Table 7.VI b: Loglinear regression analysis of effects of parents' drinking on consumption levels - females only.

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
DRINKER STATUS (ref cat=DS1)				
DS2	**0.770**	0.422	1.112	**2.160**
DS3	**-3.876**	-5.304	-2.448	**0.056**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY DS1	**0.537**	0.165	0.909	**1.711**
CO2 BY DS2	**-0.742**	-1.150	-0.262	**0.476**
CO2 BY DS3	-0.028	-0.616	0.560	0.972
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY DS1	**-1.529**	-1.961	-1.097	**0.217**
AGE2 BY DS2	**1.647**	1.157	2.137	**5.191**
AGE2 BY DS3	**5.053**	3.999	6.107	**156.49**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY DS1	**0.867**	0.611	1.123	**2.380**
SES (ref cat=Middle class)				
Working class-SES2 BY DS1	0.169	-0.181	0.519	1.184
MOTHER'S DRINKING STATUS (ref cat=Yes)				
No - MOTHER2 BY DS1	**-2.097**	-2.707	-1.487	**0.123**
MOTHER2 BY DS2	**-0.932**	-1.542	-0.322	**0.394**
MOTHER2 BY DS3	**-0.804**	-1.538	-0.070	**0.448**
FATHER'S DRINKING STATUS (ref cat=Yes)				
No - FATHER2 BY DS1	**-2.583**	-3.193	-1.973	**0.076**
CO2 BY SES2 BY DS1	**-0.518**	-0.876	-0.160	**0.596**
DENOM2 BY SES2 BY DS1	**-0.439**	-0.811	-0.067	**0.645**
MOTHER2 BY FATHER2 BY DS1	**2.943**	2.323	3.563	**18.973**
MOTHER2 BY SES2 BY DS1	**0.641**	0.157	1.125	**1.898**

DRINKER STATUS:

DS1 'Abstainers'
DS2 'Light/Moderate drinkers'
DS3 'Heavy drinkers'

Table 7.VII: Responses to questions on parents' attitudes (valid percentages, i.e. excluding missing values)

Drinking activity	Father's Attitudes					Mother's Attitudes			
	Approve	Neutral	Disapprove	Don't know		Approve	Neutral	Disapprove	Don't know
Respondent consuming an alcoholic drink at home	24.5	23.1	40.5	11.9		23.5	21.9	44.9	9.6
Respondent consuming an alcoholic drink at a party	16.8	20.1	48.7	14.4		15.6	19.4	54.7	10.3
Respondent consuming an alcoholic drink in a public bar, with friends	7.6	11.1	71.8	9.5		5.9	10.2	75.4	8.5
Respondent drinking in other places	5.3	12.0	66.7	16.0		4.6	10.6	72.1	12.7
Seeing the respondent drunk	1.1	6.1	86.5	6.2		1.9	5.3	86.7	6.1
Seeing a man drunk	5.6	42.9	30.0	21.4		4.7	35.5	41.0	18.8
Seeing a woman drunk	5.1	37.9	35.4	21.7		4.0	34.2	42.0	19.8
Respondent consuming 3-4 drinks on one occasion	6.2	13.0	68.0	12.9		5.1	12.8	72.0	10.1
A man consuming 3-4 drinks on one occasion	14.9	48.2	17.4	19.6		11.9	45.3	24.5	18.3
A woman consuming 3-4 drinks on one occasion	13.0	44.8	20.9	21.3		11.4	44.2	25.5	19.0

Table 7.IX a: Influence of fathers' attitudes on males' drinking

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
DRINKER STATUS (ref cat=DS1)				
DS2	**2.985**	2.131	3.839	**19.787**
DS3	-0.849	-2.015	0.317	0.428
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY DS1	0.280	-0.246	0.806	1.323
CO2 BY DS2	-0.235	-0.673	0.203	0.791
CO2 BY DS3	**0.613**	0.101	1.205	**1.846**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY DS1	**-1.308**	-1.920	-0.696	**0.270**
AGE2 BY DS2	**0.762**	0.276	1.248	**2.143**
AGE2 BY DS3	**2.827**	2.049	3.605	**16.895**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY DS1	**0.519**	0.201	0.877	**1.680**
SES (ref cat=Middle class)				
Working class - SES2 BY DS1	0.130	-0.416	0.676	1.349
SES2 BY DS2	**-0.502**	-0.934	-0.070	**0.605**
FATHER'S ATTITUDES (ref cat=Approves)				
Disapprove/neutral - FATT2 BY DS1	**1.738**	0.916	2.560	**5.686**
- FATT2 BY DS2	**-1.803**	-1.937	-0.949	**0.165**
- FATT2 BY DS3	**-1.836**	-2.832	-0.840	**0.159**
Disapprove, strongly - FATT3 BY DS1	**2.139**	1.331	2.942	**8.491**
- FATT3 BY DS2	**-2.110**	-2.952	-1.268	**0.121**
- FATT3 BY DS3	**-2.463**	-3.501	-1.425	**0.085**
CO2 BY DENOM2 BY DS1	-0.036	-0.512	0.440	0.965
CO2 BY SES2 BY DS1	0.445	-0.091	0.981	1.560
DENOM2 BY SES2 BY DS1	0.300	-0.218	0.818	1.350
CO2 BY DENOM2 BY SES2 BY DS1	**-1.365**	-2.055	-0.675	**0.255**
FATT2 BY AGE2 BY DS1	**0.503**	0.051	0.955	**2.467**

DRINKER STATUS: DS1 'Abstainers'
DS2 'Light/Moderate drinkers'
DS3 'Heavy drinkers'

Table 7.IX b: Influence of fathers' attitudes on females' drinking

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
DRINKER STATUS (ref cat=DS1)				
DS2	**2.298**	1.302	3.294	**9.954**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY DS1	-0.493	-1.173	0.187	0.611
CO2 BY DS2	0.087	-0.285	0.459	1.091
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY DS1	**-2.737**	-3.689	-1.785	**0.065**
AGE2 BY DS2	**3.748**	2.668	4.828	**42.436**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY DS1	**0.669**	0.265	1.073	**1.952**
DENOM2 BY DS2	**0.425**	0.045	0.805	**1.530**
SES (ref cat=Middle class)				
Working class - SES2 BY DS1	**0.581**	0.009	1.153	**1.788**
FATHER'S ATTITUDES (ref cat=Approves)				
Disapprove/neutral - FATT2 BY DS1	**2.159**	1.149	3.169	**8.662**
- FATT2 BY DS2	**-1.816**	-2.866	-0.766	**0.163**
Disapprove, strongly - FATT3 BY DS1	**2.985**	2.003	3.967	**19.787**
- FATT3 BY DS2	**-2.150**	-3.164	-1.136	**0.116**
CO2 BY DENOM2 BY DS1	0.033	-0.485	0.551	1.034
CO2 BY SES2 BY DS1	0.245	-0.367	0.857	1.278
DENOM2 BY SES2 BY DS1	0.040	-0.492	0.572	1.041
CO2 BY DENOM2 BY SES2 BY DS1	**-1.159**	-1.927	-0.391	**0.314**
FATT2 BY AGE2 BY DS1	**1.459**	0.433	2.485	**4.302**
FATT2 BY AGE2 BY DS2	**-1.782**	-3.006	-0.558	**0.168**
FATT3 BY AGE2 BY DS1	**2.582**	1.564	3.600	**13.224**
FATT3 BY AGE2 BY DS2	**-1.953**	-3.195	-0.711	**0.142**

DRINKER STATUS: DS1 'Abstainers'
DS2 'Light/Moderate drinkers'
DS3 'Heavy drinkers'

Table 7.IX c: Influence of mothers' attitudes on males' drinking

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
DRINKER STATUS (ref cat=DS1)				
DS2	**2.521**	1.681	3.361	**12.441**
DS3	-1.054	-2.238	0.130	0.349
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY DS1	0.208	-0.320	0.736	1.231
CO2 BY DS2	-0.202	-0.644	0.240	0817
CO2 BY DS3	**0.638**	0.006	1.270	**1.893**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY DS1	**-1.046**	-1.814	-0.278	**0.351**
AGE2 BY DS2	**0.896**	0.414	1.378	**2.450**
AGE2 BY DS3	**3.133**	2.281	3.989	**22.943**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY DS1	**0.784**	0.278	1.290	**2.190**
SES (ref cat=Middle class)				
Working class - SES2 BY DS1	**0.844**	0.064	1.624	**2.326**
SES2 BY DS2	**-0.538**	-0.988	-0.088	**0.584**
MOTHER'S ATTITUDES (ref cat=Approves)				
Disapprove/neutral - MATT2 BY DS1	**2.407**	1.463	3.351	**11.101**
- MATT2 BY DS2	**-1.278**	-2.114	-0.442	**0.279**
- MATT2 BY DS3	**-2.017**	-3.009	-1.025	**0.133**
Disapprove, strongly - MATT3 BY DS1	**2.561**	1.751	3.371	**12.949**
- MATT3 BY DS2	**-1.385**	-2.195	-0.575	**0.250**
- MATT3 BY DS3	**-2.518**	-3.518	-1.518	**0.081**
CO2 BY DENOM2 BY DS1	0.048	-0.428	0.524	1.049
CO2 BY SES2 BY DS1	**0.576**	0.042	1.110	**1.779**
DENOM2 BY SES2 BY DS1	0.363	-0.155	0.881	1.438
CO2 BY DENOM2 BY SES2 BY DS1	**-1.608**	-2.300	-0.916	**0.200**
MATT2 BY DENOM2 BY DS1	**-0.627**	-1.093	-0.161	**0.534**
MATT2 BY AGE2 BY DS1	0.104	-0.542	0.750	1.110
MATT3 BY AGE2 BY DS1	-0.451	-1.131	0.229	0.637
MATT2 BY SES2 BY DS1	**-1.008**	-1.692	-0.324	**0.365**
MATT3 BY SES2 BY DS1	**-0.886**	-1.524	-0.248	**0.414**
AGE2 BY SES2 BY DS1	-0.684	-1.446	0.078	0.505
MATT2 BY AGE2 BY SES2 BY DS1	**0.955**	0.029	1.881	**2.599**
MATT3 BY AGE2 BY SES2 BY DS1	**1.183**	0.277	2.089	**3.264**

DRINKER STATUS: DS1 'Abstainers'
DS2 'Light/Moderate drinkers'
DS3 'Heavy drinkers'

Table 7.IX d: Influence of mothers' attitudes on females' drinking

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
DRINKER STATUS (ref cat=DS1)				
DS2	**1.278**	0.376	2.180	**3.589**
DS3	**-2.328**	-4.540	-0.116	**0.097**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY DS1	0.024	-0.680	0.728	1.024
CO2 BY DS2	**-0.649**	-1.075	-0.223	**0.523**
CO2 BY DS3	0.027	-0.583	0.637	1.028
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY DS1	**-1.134**	-2.014	-0.254	**0.322**
AGE2 BY DS2	**2.047**	1.199	2.895	**7.745**
AGE2 BY DS3	**4.677**	2.513	6.841	**107.447**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY DS1	**0.998**	0.266	1.730	**2.713**
DENOM2 BY DS2	**0.687**	0.137	1.237	**1.998**
SES (ref cat=Middle class)				
Working class - SES2 BY DS1	0.425	-0.167	1.017	1.530
MOTHER'S ATTITUDES (ref cat=Approves)				
Disapprove/neutral - MATT2 BY DS1	**2.382**	1.392	3.372	**10.827**
- MATT2 BY DS2	**-1.147**	-2.005	-0.289	**0.318**
- MATT2 BY DS3	**-1.331**	-2.359	-0.303	**0.264**
Disapprove, strongly - MATT3 BY DS1	**3.168**	2.206	4.130	**23.760**
- MATT3 BY DS2	**-1.573**	-2.395	-1.085	**0.119**
- MATT3 BY DS3	**-2.125**	-3.165	-1.085	**0.119**
CO2 BY DENOM2 BY DS1	0.148	-0.370	0.666	1.160
CO2 BY SES2 BY DS1	0.255	-0.359	0.869	1.290
DENOM2 BY SES2 BY DS1	0.019	-0.521	0.559	1.019
CO2 BY DENOM2 BY SES2 BY DS1	**-1.069**	-1.835	-0.293	**0.343**
MATT2 BY CO2 BY DS1	**0.536**	0.008	1.064	**1.709**
MATT2 BY AGE2 BY DS1	-0.290	-0.874	0.294	0.748
MATT3 BY AGE2 BY DS1	**-0.874**	-1.436	-0.312	**0.417**
MATT2 BY DENOM2 BY DS1	**-0.822**	-1.398	-0.246	**0.440**
MATT2 BY SES2 BY DS1	**-0.705**	-1.219	-0.191	**0.494**
MATT3 BY SES2 BY DS1	**-0.679**	-1.165	-0.193	**0.507**

DRINKER STATUS: DS1 'Abstainers'
DS2 'Light/Moderate drinkers'
DS3 'Heavy drinkers'

Table 7.X: Loglinear regression analysis of perceived pressure to drink (base=never)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
PRESSURE TO DRINK (ref cat=PD1)				
PD2	**-0.868**	-1.292	-0.444	**0.420**
PD3	**-3.374**	-4.366	-2.382	**0.034**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY PD1	-0.411	-0.829	0.007	0.663
CO2 BY PD2	**0.549**	0.064	1.033	**1.732**
CO2 BY PD3	**1.972**	0.944	3.000	**7.185**
GENDER (ref cat=Male)				
Female - SEX2 BY PD1	-0.378	-0.774	0.018	0.685
SEX2 BY PD2	**-0.598**	-1.176	-0.020	**0.550**
SEX2 BY PD3	**-2.300**	-4.332	-0.268	**0.005**
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY PD1	**-0.579**	-0.908	-0.249	**0.560**
AGE2 BY PD2	**0.792**	0.264	1.320	**2.208**
AGE2 BY PD3	**2.025**	0.995	3.055	**7.576**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY PD1	**0.497**	0.181	0.853	**1.644**
SES (ref cat=Middle class)				
Working class - SES2 BY PD1	-0.168	-0.564	0.228	0.845
SES2 BY PD2	0.013	-0.393	0.419	1.013
SES2 BY PD3	**0.996**	0.442	1.550	**2.707**
CO2 BY AGE2 BY PD1	**0.788**	0.396	1.180	**2.199**
CO2 BY AGE2 BY PD2	-0.613	-1.243	0.017	0.542
CO2 BY AGE2 BY PD3	**-1.909**	-3.059	-0.759	**0.148**
AGE2 BY SEX2 BY PD1	0.060	-0.325	0.446	1.062
AGE2 BY SEX2 BY PD2	**0.860**	0.210	1.510	**2.363**
AGE2 BY SEX2 BY PD3	**2.789**	0.741	4.837	**16.265**
SEX2 BY DENOM2 BY PD1	**0.481**	0.187	0.775	**1.618**
SEX2 BY SES2 BY PD1	0.194	-0.190	0.578	1.214
SEX2 BY SES2 BY PD2	-0.198	-0.802	0.406	0.820
SEX2 BY SES2 BY PD3	**-1.290**	-2.200	-0.380	**0.275**

Do you ever feel you have to drink alcohol to have a good time?

PD1: 'Never'
PD2: 'Sometimes'
PD3: 'Always/Often'

Table 7.XI: Loglinear regression analysis of number of friends drinking alcohol (base=all)

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
NO OF FRIENDS DRINKING (ref cat=FRD1)				
FRD2	**5.718**	3.134	8.3025	**304.296**
FRD3	**8.256**	5.708	10.804	**3850.661**
FRD4	**8.906**	5.692	11.470	**7376.098**
FRD5	**9.709**	7.173	12.245	**16465.12**
COUNTRY (ref cat=Scotland)				
N. Ireland - CO2 BY FRD1	**4.445**	3.947	5.943	**85.200**
CO2 BY FRD2	**-2.589**	-4.079	-1.099	**0.075**
CO2 BY FRD3	**-3.702**	-5.208	-2.196	**0.025**
CO2 BY FRD4	**-3.385**	-4.923	-1.847	**0.034**
CO2 BY FRD5	**-3.963**	-5.471	-2.455	**0.019**
GENDER (ref cat=Male)				
Female - SEX2 BY FRD1	0.138	-0.518	0.794	1.148
SEX2 BY FRD2	-0.121	-0.585	0.343	0.886
SEX2 BY FRD3	-0.226	-0.726	0.274	0.798
SEX2 BY FRD4	**0.652**	0.048	1.256	**1.919**
SEX2 BY FRD5	-0.137	-0.661	0.387	0.872
AGE (ref cat=11-12 years old)				
14-16 years old - AGE2 BY FRD1	**1.205**	0.713	1.697	**3.337**
AGE2 BY FRD2	0.126	-0.430	0.682	1.134
AGE2 BY FRD3	**-1.364**	-1.906	-0.822	**0.256**
AGE2 BY FRD4	**-3.331**	-4.035	-2.627	**0.036**
AGE2 BY FRD5	**-2.799**	-3.355	-2.243	**0.061**
DENOMINATION (ref cat=Roman Catholic)				
Protestant/Non-denom - DENOM2 BY FRD1	**2.151**	0.615	3.687	**8.593**
DENOM2 BY FRD2	**-1.774**	-3.300	-0.248	**0.170**
DENOM2 BY FRD3	**-1.726**	-3.246	-0.206	**0.178**
DENOM2 BY FRD4	**-2.178**	-3.750	-0.606	**0.113**
DENOM2 BY FRD5	-1.456	-2.972	0.060	0.233
SES (ref cat=Middle class)				
Working class - SES2 BY FRD1	**1.620**	1.106	2.134	**5.053**
SES2 BY FRD2	**-1.299**	-1.789	-0.809	**0.273**
SES2 BY FRD3	**-1.021**	-1.531	-0.511	**0.360**
SES2 BY FRD4	**-0.941**	-1.497	-0.385	**0.390**
SES2 BY FRD5	**-1.333**	-1.831	-0.835	**0.264**
DRINKING STATUS (ref cat=Abstainers)				
Drinkers - DS2 BY FRD1	**5.296**	3.268	7.324	**199.537**
DS2 BY FRD2	-1.826	-3.888	0.236	0.161
DS2 BY FRD3	**-3.492**	-5.520	-1.464	**0.030**
DS2 BY FRD4	**-5.175**	-7.205	-3.145	**0.006**
DS2 BY FRD5	**-4.450**	-6.466	-2.434	**0.012**

contd./

Table 7.XI: (continued) How many of your friends drink alcohol? - Interactive effects

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
CO2 BY DENOM2 BY FRD1	**-2.903**	-4.449	-1.447	**0.055**
CO2 BY DENOM2 BY FRD2	**2.163**	0.549	3.777	**8.697**
CO2 BY DENOM2 BY FRD3	**2.662**	1.028	4.296	**14.325**
CO2 BY DENOM2 BY FRD4	**2.620**	0.930	4.310	**13.736**
CO2 BY DENOM2 BY FRD5	**2.742**	1.120	4.364	**15.518**

How many of your friends drink alcohol?

FRD1: 'All of them'
FRD2: 'Most of them'
FRD3: 'Some of them'
FRD4: 'Friends do not drink'
FRD5: 'Do not know'

Table 7.XIII: Results of logistic regression analysis on membership of 'Against drinking' vs. membership of 'Personal Abstainers'

Variable	Log Odds	95% confidence intervals		Odds Ratios
		lower	upper	
AGE (ref cat=11-12 years old)				1
14-16 years old - AGE2	**-0.747**	-1.417	-0.077	**0.474**
DENOMINATION (ref cat=Roman Catholic)				1
Protestant/Non-denominational - DENOM2	**-1.160**	-2.244	-0.076	**0.313**
SES (ref cat=Middle class)				1
Working class - SES2	**1.929**	0.493	3.365	**6.883**
FUTURE DRINKER? (ref cat=Yes)				1
No - FD2	**2.679**	0.851	4.507	**14.571**
Special occasions only - FD3	0.911	-0.329	2.151	2.487
Don't Know - FD4	0.928	-0.468	2.324	2.529
DENOM2 BY FD2	-0.003	-2.071	2.065	0.997
DENOM2 BY FD3	**1.820**	0.066	3.574	**6.172**
DENOM2 BY FD4	0.933	-0.825	2.691	2.542
SES2 BY FD2	**-2.003**	-3.967	-0.039	**0.135**
SES2 BY FD3	**-2.070**	-3.804	-0.336	**0.126**
SES2 BY FD4	**-1.714**	-3.426	-0.002	**0.180**

Youthful Drinking in Northern Ireland and Scotland: preliminary results from a comparative study

WENDY A. LORETTO

Alcohol Research Group, Department of Psychiatry, University of Edinburgh, Morningside Park, Edinburgh EH10 5HF, UK

ABSTRACT *Available evidence suggests that drinking habits in Northern Ireland are markedly different from those in Britain. A cross-cultural study was conducted of self-reported alcohol use amongst 1172 young people aged 11–12 and 14–16 years old in selected areas of Northern Ireland and Scotland. The results of this study supported earlier findings: the Northern Irish teenagers were less likely than their counterparts in the Scottish study group to have consumed an alcoholic drink. However, the findings also showed that the young drinkers in the Northern Irish group were more likely than their Scottish peers to be heavy drinkers and to consume alcohol in contexts associated with possible dangers, i.e. drinking in peer groups in uncontrolled settings. The importance of these findings in the prevention of youthful alcohol misuse is explored.*

Introduction

It has been established that there is a marked difference between drinking patterns in Northern Ireland and those in the rest of the UK. For example, in Britain in 1986, 91% of all adults (94% of males and 89% of females) were classed as 'drinkers' compared to 65% of Northern Irish adults (73% of males and 59% of females). (OPCS, 1986; PPRU, 1989). In contrast to these high levels of abstinence, other studies (see, for example, Harbison & Haire, 1982; Duffy, 1988) have indicated that when the Northern Irish do drink they tend to consume larger amounts than their 'mainland' counterparts.

This pattern of alcohol consumption has been echoed in the limited research conducted amongst young people in Northern Ireland. Two surveys were undertaken by the Department of Health and Social Services (DHSS) Northern Ireland in 1988 and 1990. When the results of these studies were compared to those of British surveys (see, for example, Marsh *et al.*, 1986), it was found that Northern Irish young people are less likely to have tasted alcohol or to be current drinkers. However, when they do drink, they are more likely than their British counterparts to be frequent drinkers and to consume greater amounts of alcohol on each drinking occasion.

Concern over youthful alcohol misuse has led to the development of a plethora of education initiatives. However, review evidence (see, for example, Bandy & President, 1983; Bagnall, 1991; May, 1993; Fossey, 1994) has tended to highlight the general ineffectiveness of such programmes to influence youthful drinking habits, at least in the short term. In this vein it has been argued that

success of education and prevention initiatives will not be realised until there is a more complete understanding of the interactive influences between the substance, the individual user and the sociocultural context in which use occurs (De Haes, 1987). In order to investigate the relative influence of a range of demographic, social and behavioural factors on youthful alcohol use, it was decided to conduct a cross-cultural study which focused on the development of drinking habits amongst secondary (high) school pupils in selected areas of Northern Ireland and in Scotland.

Method

The investigation consisted of a single phase, cross-sectional survey of pupils in six schools in Scotland and six schools in Northern Ireland. Parallel surveys were conducted in Scotland (Lothian and Strathclyde regions) and in Northern Ireland (Belfast and surrounding areas). These localities were chosen on the basis of comparability: both are major urban areas, sustaining a large proportion of each country's population. Within each area schools were chosen on a quota basis to enable comparisons to be made between the study groups in the two countries. It should be noted here that although the main survey focused on schools in urban areas, a pilot study had previously been carried out in more rural regions of the two countries. When the results of this pilot project were compared to the main study, no significant differences relating to drinking behaviour emerged.

Data were elicited by the use of a self-completed questionnaire. This was administered in school in groups under examination conditions, and was supervised by the researcher. Despite being subject to the potential methodological problems of over and under reporting. this type of survey instrument has enjoyed widespread use in studies of adolescent drinking behaviour (see, for example, Plant *et al.*, 1985; Marsh *et al.*, 1986; Bagnall, 1988; Craig, 1989; Craig *et al.*, 1991), and is an efficient way to collect a large amount of quantitative information. Many of the questions employed to define alcohol use in these surveys were replicated in the present study in order to ensure a high degree of comparability. The questions were divided into seven categories:

1. biographical details;
2. questions for those who drink alcohol;
3. questions for non-drinkers;
4. questions relating to tobacco and illicit drugs;
5. attitudes towards alcohol;
6. lifestyle details;
7. experience of education relating to alcohol, tobacco and illicit drugs.

In accordance with standard survey procedures, the anonymity of all schools and individual respondents was assured. Before completing the questionnaire, all selected pupils and their families were issued with a letter explaining the scope of the study and requesting parents who did not wish their child to participate to complete and return a tear-off slip. To enhance confidentiality, teachers were asked not to be present during the administration of the questionnaires.

Results and Discussion

Response

A total of 1172 questionnaires were completed. Two schedules were incomplete and 152 pupils were absent from school or were otherwise unavailable for inclusion in the study. As far as the researcher could determine this figure did not include any chronic absentees; a large number of such individuals could have indicated a significant source of non-response bias. In addition 24 parents refused permission for their children to take part in the study. The net response rate was 86.8%. Although this figure was consistent across age bands and between males and females, the response rate amongst the Northern Irish pupils was higher than that of the selected Scottish pupils.

Characteristics of the Study Group

Of the 1172 respondents, 600 were resident in Northern Ireland and 572 in Scotland. Two age groups were included in the study: these were 11–12 year olds (first year of secondary education) and 14–16 year olds (final year of compulsory school education). Approximately 50 pupils from each age group were selected from each school. This number was chosen because it corresponded to an average year size and meant that no further sampling bias was introduced. Thus all students from the selected years were eligible to take part in the study. Full details of the subdivisions are indicated by Table 1.

It is to be noted that, although it was hoped to survey equal numbers of males and females, the Northern Irish sample contained a significantly higher proportion of older males: this was due to a girls' school dropping out of the survey. The results presented below highlight between-country differences in drinking behaviour. but also investigate differences due to age and gender as previous surveys of youthful alcohol use (see, for example, Plant *et al.*, 1985; Bagnall, 1988, 1991) have commonly identified gender and age as significant correlates of adolescent drinking behaviour.

Drinking Behaviour

As predicted by evidence from earlier surveys, a significantly higher proportion of the Northern Irish sample had never had a whole alcoholic drink (Northern Ireland 25.2%, Scotland 19.9%; $\chi^2 = 4.36$, $df = 1$, $p < 0.05$). However, as noted earlier, the Northern Irish group was significantly older than the Scottish group and also contained a higher proportion of males. Therefore it was postulated that the apparent 'country' effect could merely be due to the age and/or gender

Table 1. Characteristics of study group ($n = 1172$)

	Scotland		Northern Ireland	
	Males	Females	Males	Females
11–12-years-old	169	147	164	131
14–16-years-old	118	138	179	126

Table 2. Results of logistic regression analysis on drinking/abstaining

Variable	Log odds	95% Confidence intervals		Odds ratios
		Lower	Upper	
Country				
(1) (ref.cat. = Scotland)				1
(2) N. Ireland	**−0.138**	−0.224	−0.052	**0.871**
Gender				
(1) (ref.cat. = male)				1
(2) Female	**−0.537**	−0.999	−0.075	**0.584**
Age				
(1) (ref.cat. = 11–12-years-old)				1
(2) 14–16-years-old	**1.083**	0.625	1.541	**2.954**
Gender (2) by age(2)	**0.809**	0.153	1.465	**2.246**
Country(2) by gender(2)	**−0.614**	−1.212	−0.016	**0.541**

imbalance. Accordingly, a further analysis using forward stepwise logistic regression was undertaken to control for age and gender.

From the odds ratios presented in Table 2, it can be seen that country. gender and age all exerted significant independent effects on whether or not a subject had consumed an alcoholic drink. Respondents from Scotland (1:0.87), males (1:0.58) and those aged 14–16 (2.95:1) were all more likely to report having consumed a whole alcoholic drink. Two significant interaction effects were observed. The first indicated that the effect of drinking prevalence increasing with age was greater for females than for males. The second illustrated that the difference observed between the sexes was greater in Northern Ireland than in Scotland. This meant that the girls in the Northern Irish study group were the most likely country/gender combination to abstain from alcohol.

Respondents were asked about their most recent drinking occasion. Again experience of alcohol was revealed to be strongly related to age. The 11–12 year olds were significantly more likely to have had their last drink 'over 3 weeks ago' than were the 14–16 year olds. The latter group, particularly older respondents living in Northern Ireland, were most likely to have consumed alcohol within a week of the survey. Females of all ages were significantly more likely than their male counterparts to have consumed their most recent alcohol over 4 weeks ago. The girls were also markedly less likely to have last drunk in the week preceding the data collection. This gender difference was even greater amongst those respondents from Northern Ireland. These results are elaborated by Table 3.

As shown by Table 4, Northern Irish young people were less likely than their Scottish peers (of each age group and sex) to have had their last drink with parents or other relatives, either at home or at a special occasion. They were also markedly more likely to have reported drinking most recently in a public place or outdoors location, in the company of friends (see also Table 5 for details of company at most recent drinking occasion). This finding appears despite a local bylaw which was introduced in Northern Ireland in 1991 to prohibit the consumption of alcohol in such locations.

Table 3. Results of loglinear regression analysis of recency of last drinking occasion

Variable	Log odds	95% Confidence intervals		Odds ratios
		Lower	Upper	
Recency (ref.cat. = REC1)				
REC2	−0.636	−1.112	−0.160	0.529
REC3	−0.243	−0.665	0.179	0.784
REC4	−0.406	−0.848	0.036	0.666
REC5	0.568	0.218	0.918	1.765
Country (ref.cat. = Scotland)				
N. Ireland—CO(2) by REC1	−0.080	−0.308	0.148	0.923
Gender (ref.cat. = Male)				
Female—Gender(2) by REC1	**−1.234**	−1.886	−0.582	**0.291**
Gender(2) by REC2	0.636	−0.308	1.580	1.889
Gender(2) by REC3	0.803	−0.035	1.741	2.232
Gender(2) by REC4	**1.417**	0.611	2.223	**4.125**
Gender(2) by REC5	**1.238**	0.524	1.952	**3.449**
Age (ref.cat. = 11–12 years old)				
14–16 years old—age(2) by REC1	**0.461**	0.089	0.833	**1.586**
Age(2) by REC2	−0.147	−0.737	0.443	0.863
Age(2) by REC3	**−0.697**	−1.257	−0.137	**0.498**
Age(2) by REC4	**−0.990**	−1.612	−0.368	**0.372**
Age(2) by REC5	**−1.415**	−1.915	−0.915	**0.243**
CO(2) by Gender(2) BY REC1	**−0.511**	−0.787	−0.235	**0.600**
CO(2) by age(2) by REC1	**0.483**	0.207	0.759	**1.623**
Gender(2) by age(2) by REC1	**1.376**	0.672	2.080	**3.959**

Recency: REC1, within the previous week; REC2, 1–2 weeks ago; REC3, 3–4 weeks ago; REC4, 4 weeks–3 months ago, REC5, over 3 months ago.

Females were less likely than males to have most recently consumed alcohol in a public or outdoors location (Table 4). Interestingly, there were no significant gender differences in relation to company on last drinking occasion. In their survey of Scottish 14–16 year olds, Plant & Foster (1991) found that the girls were more likely than the boys to have last consumed alcohol with a mixed group of friends and were less likely than males to have last drunk with their parents.

However, significant differences did emerge in relation to age of respondents: younger subjects were markedly more likely to have reported that their last drink was consumed in the company of parents, either at home or on a special occasion. The older teenagers tended to have this drink in the company of friends either at a friends home, in a public bar, club, disco or outdoors. This is elaborated by Tables 4 and 5. Evidence from reviews undertaken by May (1992) and Lister Sharp (1993) shows that, in general, as teenagers grow older, they move from drinking in their own homes to drinking with friends in other places.

Respondents were asked to record details of the amounts of alcohol they had consumed on their last drinking occasion. For ease of completion, this was a free response question: the respondents were asked to follow the style of an example in the questionnaire. This format proved to be 'user friendly' to the children and allowed more accurate calculation of alcohol consumption. These details were

Table 4. Results of loglinear regression analysis of location of most recent drinking occasion

Variable	Log odds	95% Confidence intervals		Odds ratios
		Lower	Upper	
Location(ref.cat. = LOCN1)				
LOCN2	−0.719	−1.129	−0.309	0.487
LOCN3	−0.733	−1.127	−0.339	0.480
LOCN4	−1.307	−1.781	−0.833	0.271
LOCN5	−1.896	−2.452	−1.340	0.150
Country (ref.cat. = Scotland)				
N. Ireland—CO(2) by LOCN1	**−0.226**	−0.432	−0.020	**0.798**
CO(2) byLOCN2	−0.065	−0.511	0.381	0.937
CO(2) byLOCN3	0.196	−0.186	0.578	1.217
CO(2) byLOCN4	**0.439**	0.019	0.859	**1.551**
CO(2) byLOCN5	**0.868**	0.368	1.368	**2.382**
Gender (ref.cat. = Male)				
Female—gender(2) byLOCNI	−0.224	−0.566	0.118	0.799
Gender(2) by LOCN2	−0.002	−0.576	0.572	0.998
Gender(2) by LOCN3	0.413	−0.107	0.933	1.511
Gender(2) by LOCN4	**−1.211**	−2.161	−0.261	**0.298**
Gender(2) by LOCN5	**−1.235**	−2.365	−0.105	**0.291**
Age (ref.cat. = 11–12-years-old)				
14–16-years-old—age(2) by LOCN1	**1.151**	−1.575	−0.727	**0.316**
Age(2) byLOCN2	**0.752**	0.152	1.352	**2.121**
Age(2) byLOCN3	**1.604**	1.074	2.134	**4.973**
Age(2) byLOCN4	**1.370**	0.764	1.976	**3.935**
Age(2) byLOCN5	**1.787**	1.149	2.425	**5.972**
CO(2) by Gender(2) by LOCN1	**−0.486**	−0.766	−0.206	**0.615**
CO(2) by Age(2) by LOCN1	**0.315**	0.019	0.611	**1.370**
Gender(2) by Age(2) by LOCN1	**0.188**	−0.420	0.796	**1.207**

Location: LOCN1, at home, with parents; LOCN2, away from home, under supervision; LOCN3, away from home, no supervision; LOCN4, public places; LOCN5, outdoors locations.

converted into units by the researcher. (A single unit contains approximately 7.9 g or 1 cl of absolute alcohol and is equivalent to half a pint of ordinary strength beer, lager or cider, or to a single public house measure of spirits in Scotland—in Northern Ireland a unit is equivalent to two thirds of a single measure of spirits—or a glass of wine.)

The majority of respondents reported drinking relatively modest quantities. However, significant numbers of both sexes (16.6% of males and 11.2% of females) did report having consumed 11 or more units of alcohol on their

Table 5. Results of logistic regression analysis of company at most recent drinking occasion (others vs parents)

Variable	Log odds	95% Confidence intervals		Odds ratios
		Lower	Upper	
Country				
(1) (ref.cat. = Scotland)				1
(2) N. Ireland	**0.427**	0.087	0.767	**2.673**
Age				
(1) (ref.cat. = 11–12-years-old)				1
(2) 14–16-years-old	**1.768**	1.412	2.214	**5.859**

last drinking occasion. It is noted that at least some individuals may have been exaggerating.

Using the procedures adopted by Plant & Foster (1991) and Plant *et al.* (1990), details of last occasion's alcohol consumption were used to classify respondents as 'light' and 'heavy' drinkers. Male 'heavy drinkers' where defined as those

Table 6. Results of loglinear regression analyses of consumption on last drinking occasion

Variable	Log odds	95% Confidence intervals		Odds ratios
		Lower	Upper	
Males				
Drinker type (ref.cat. = DT1)				
DT2	1.130	0.794	1.466	3.096
DT3	− 2.537	− 3.345	− 1.729	0.079
Country (ref.cat. = Scotland)				
N. Ireland—CO(2) by DT1	**0.118**	− 0.268	0.504	**1.125**
CO(2) by DT2	− 0.217	− 0.643	0.209	0.805
CO(2) by DT3	**0.495**	0.025	0.965	**1.640**
Age (ref.cat. = 11–12-years-old)				
14–16-years-old—Age(2) by DTl	**− 1.204**	− 1.672	− 0.736	**0.300**
Age(2) by DT2	**0.794**	0.328	1.260	**2.212**
Age(2) byDT3	**3.090**	2.268	3.912	**21.977**
Females				
Drinker type (ref.cat. = DT1)				
DT2	0.555	0.231	0.879	1.742
DT3	− 3.656	− 4.866	− 2.446	0.026
Country (ref.cat. = Scotland)				
N. Ireland—CO(2) by DT1	**0.334**	0.004	0.664	**1.397**
CO(2) by DT2	**− 0.753**	− 1.157	− 0.349	**0.471**
CO(2) by DT3	**0.086**	0.044	0.130	**1.219**
Age (ref.cat. = 11–12-years-old)				
14–16-years-old—Age(2) by DT1	**− 1.437**	− 1.851	− 1.023	**0.238**
Age(2) by DT2	**1.540**	1.068	2.012	**4.665**
Age(2) by DT3	**4.587**	3.341	5.833	**98.199**

Drinker types: DT1, abstainers; DT2, light drinkers; DT3, heavy drinkers.

who had consumed 11 or more units on their last drinking occasion; females 8 or more units. As before, abstainers were those who had never had a whole alcoholic drink. Loglinear regression was carried out on these data in order to ascertain whether age or country were likely to have affected consumption levels. Fuller details are presented in Table 6.

As shown in Table 6, there were significant differences between the ages, with the younger age group more likely not to have had an alcoholic drink, and to be classed as 'light' rather than 'heavy' drinkers. Although significant findings in relation to abstainers between countries emerged only for females (females in the Scottish study group were less likely than their Northern Irish counterparts to be abstainers), for both sexes there was a markedly higher proportion of 'heavy' drinkers in Northern Ireland.

Conclusions

These findings are consistent with other survey evidence which indicates that the majority of teenagers in the UK do consume alcohol, but in moderation (see, for example, Plant *et al.*, 1985; Marsh *et al.*, 1986; Bagnall, 1988; Goddard & Ikin, 1988). Several researchers (for example, Plant & Foster, 1991; May, 1992) have commented on the normality of alcohol consumption among the young, and have emphasised that drinking habits amongst British teenagers have remained relatively stable during the last 10 years.

Nevertheless, a substantial minority of teenagers do drink heavily, to levels which would strongly indicate the possibility of adverse consequences. Surveys by Plant and colleagues in Britain have shown that youthful heavy drinkers are especially likely to engage in other potentially perilous activities, including tobacco smoking, illicit drug use, truancy and unprotected sex (Plant & Plant, 1992).

The preliminary findings from this study support the view that there are major differences in the self-reported levels of use of alcohol amongst adolescents in Northern Ireland and Scotland. At this stage, a similar conclusion to that offered by the DHSS (Craig, 1989) survey is reached: i.e. the results suggest that young drinkers in Northern Ireland follow the polarised patterns of consumption of their elders, gravitating around the extremes of abstinence and heavier drinking. Moreover, it also appears that much of Northern Irish adolescent drinking occurs in situations which are associated with possible dangers, outside the home and the company of parents or relatives, and often in such places as parks, wastelands or streets. In other words, much youthful drinking in Northern Ireland takes place among peer groups in uncontrolled settings.

Despite the marked differences between drinking behaviours in Northern Ireland and those in Great Britain shown by a limited array of survey data, there has been relatively little social and behavioural research into the pattern of drinking in Ulster, particularly amongst young people. A survey of 1126 Northern Irish adults (Harbison & Haire, 1982) analysed differences in alcohol consumption between respondents in terms of sex and age differences, occupational and social class variability. In 1978, O'Connor produced a study which compared the social and cultural influences affecting the drinking habits of young people in Eire and in England. This study illustrated the complex interplay of cultural, ethnic, parental, social and peer influences, all of which were shown to contribute to a young person's drinking behaviour. Further

analysis of this data will therefore attempt to assess the way in which cultural national, family, social and religious background influence behaviours, attitudes and beliefs related to alcohol, tobacco and illicit drugs in Northern Ireland and Scotland.

The results reported here support the view that the culture of Northern Ireland is much more ambivalent towards the use of alcohol than is the culture of Scotland. Such ambivalence, as noted by Bales (1962) may serve both to foster the avoidance and the heavy problematic use of alcohol amongst adolescents and older drinkers. It is thus argued that in order for alcohol education initiatives to be effective, they must be tailored to the culture in which they are being implemented. In practical terms, this may mean a reduction in the number of large-scale, country-wide programmes, and an associated introduction of local, or community-based, approaches. Moreover, the wider policy implications of the study also highlight the difficulties of presenting a 'safe' or moderate drinking message in a culture which displays such polarised patterns of alcohol consumption.

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